Province of
British Columbia

Ministry of
Agriculture,
Fisheries
and Food

Honourable Bill Barlee, Minister

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Mission Statement

The Ministry of Agriculture and Fisheries will encourage sustainable growth and development of industries involved in producing, processing, distributing, and marketing agricultural, fish and food products in British Columbia to meet demand in domestic and export markets.

Honourable Bill Barlee, Minister

Province of British Columbia

OFFICE OF THE MINISTER

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The Honourable David C. Lam
Lieutenant-Governor of British Columbia
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May It Please Your Honour:

I have the pleasure of submitting for your consideration the Annual Report and Financial Statement of the British Columbia Ministry of Agriculture and Fisheries for the period April 1, 1990 to March 31, 1991.

Yours truly,

N L Barlee

Bill Barlee
Minister

Province of British Columbia

OFFICE OF THE DEPUTY MINISTER

Ministry of Agriculture, Fisheries and Food

808 Douglas Street
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V8W 2Z7

To the Honourable
Bill Barlee
Minister of Agriculture, Fisheries and Food
Victoria, B.C.

Sir:

I herewith submit my report of the activities of the Ministry of Agriculture and Fisheries for the fiscal year April 1, 1990 to March 31, 1991.

The past year has seen significant progress on major issues of public policy in the agriculture and fisheries sectors. These are stated in detail in the report and highlighted here for information.

The Okanagan Valley Tree Fruit Authority Act was passed to establish a crown corporation with specific responsibility to revitalize British Columbia's tree fruit industry. The Authority (OVTFA) will work with both growers and processors to create a prosperous industry that will contribute to the quality of life in the province in the years ahead. The Authority's programs will focus on orchard renovation and replanting, providing education and advisory services and improving industry structure.

The B.C. Wine Act was passed and the British Columbia Wine Institute was created. This body has extended appellation standards for B.C. wines that are among the most rigorous in the world. This industry-supported initiative is a fine example of the way in which producers are emphasizing quality as a means to expand into national and international markets.

The National Policy Review by the federal Minister of Agriculture has led to changes in many national programs. Ministry staff have been involved in negotiations to develop new programs that will strengthen and enhance the economies of grain-producing areas of the province and provide stability to communities in those areas.

The "Canada-British Columbia Soil and Water Accord" was signed. This is a $5 million agreement extending over a four-year period to March 31, 1994. Its purpose is to introduce leading-edge soil conservation technology directly to British Columbia farms. Projects initiated under this agreement will include research and technology development undertaken by industry stakeholders and commodity groups to ensure that the quality of B.C. soil and water is sustainable in the long term.

The Game Farming Act was passed to ensure the orderly and responsible development of this fledgling industry. Game farming in British Columbia was conditionally approved in 1987 and now is a $75 million industry with farm gate receipts of $26 million.

The Farming and Fishing Industries Development Act passed in 1989 enables industry or commodity organizations to levy funds from their members to support initiatives such as marketing, research, and development. This fiscal year the Agricultural Industry Development Council and the Peace River Grain Industry Development Council were formed, taking their place alongside the existing raspberry and blueberry development councils.

The Ministry has continued to support the Canadian government's position advocating clarification and strengthening of GATT Article XI. This Article of the GATT Agreement permits operation of effective, efficient domestic supply management programs.

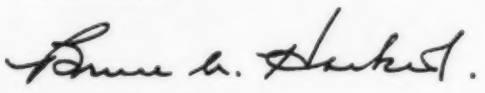
The B.C. Driftnet Symposium was held in Vancouver to provide the public with up-to-date information on international and scientific developments related to driftnet fishing, prior to the United Nations General Assembly debate on a driftnet moratorium scheduled for the fall of 1991.

The Ministry established a regional aquaculture office in the new Courtenay Access Centre to provide improved licensing, enforcement, field inspection and extension services to clients in addition to on-going services to the aquaculture sector. Ministry offices in Salmon Arm, Smithers, Vanderhoof, and Duncan have also been selected for location in government access centres.

The combined value of food industry sales (i.e., total sales at producer, wholesale, and retail levels) reached $10 billion in 1990-91. Farm cash receipts increased to $1.2 billion, while value of commercial fisheries and aquaculture landed products increased to $544 million.

The agriculture, fisheries and food industries continue to face global competition and have developed new products for sale to domestic and export markets. Consumer demands are driving changes in our food-sector operations and will continue to move the industry toward greater food product diversity, more value-added and service-added products, and a renewed emphasis on food quality and safety.

The Ministry continues its ongoing commitment to provide the highest quality service to British Columbia's food industry and to consumers.



Bruce A. Hackett
Deputy Minister

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Ministry of
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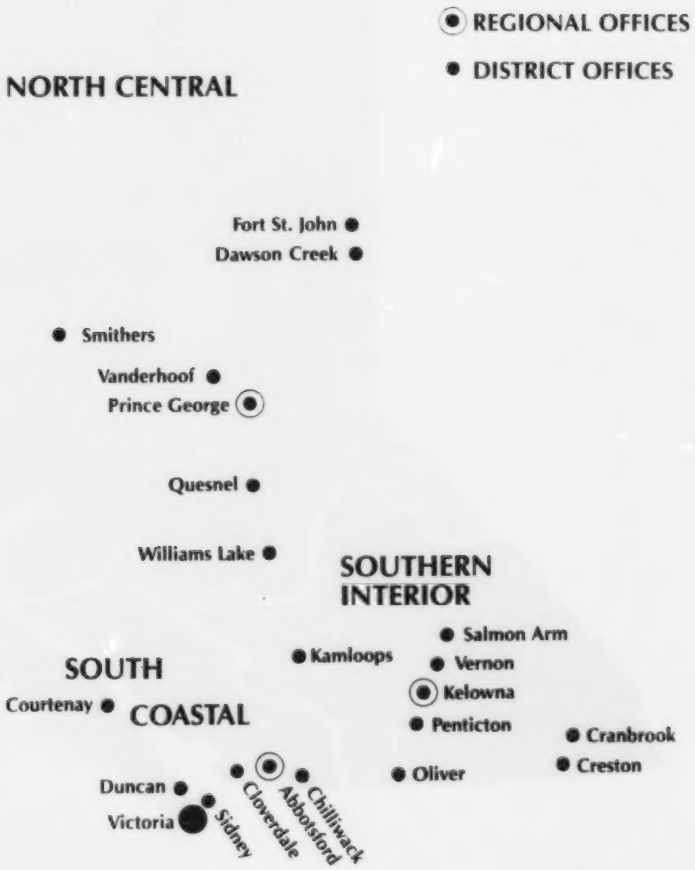
AGRICULTURAL REGIONS



Competitiveness and Trade

The British Columbia agri-food and fisheries industries face increased competition in domestic and export markets as trade barriers are reduced worldwide. The British Columbia Ministry of Agriculture and Fisheries is carefully monitoring developments that affect international trade in agri-food and fisheries products and is working to ensure that British Columbia's interests are considered in any trade negotiations or disputes likely to affect the agriculture, fisheries or food sectors. The Ministry is also taking steps that are consistent with our international trading obligations to help industry maintain or improve its competitiveness. Specifically the Ministry is cooperating closely with industry in the areas of:

- *strategic planning*
- *marketing and market development*
- *crop/stock protection*
- *industry development (e.g., management training, technological innovation, development of commodities for specialty or niche markets).*

Trade—International

The Canada/United States Trade Agreement (CUSTA), the General Agreement on Tariffs and Trade (GATT), the potential North American Free Trade Agreement (NAFTA), interprovincial negotiations, and other national and international agreements are challenging British Columbia producers to remain competitive in an increasingly complex and demanding world marketplace. Producers, processors, and distributors are addressing these new challenges by researching, developing, and adopting the most efficient methods of production, storage, transportation, and distribution.

In February 1991, the first level of the CUSTA dispute-settlement mechanism overturned an American claim that Canadian pork is unfairly subsidized. The United States government subsequently issued an extraordinary challenge of the panel's decision, which was also resolved in Canada's favour. The rulings were good news for Canadian producers as they indicate that Canadian industry is meeting the demands of a competitive marketplace.

With respect to the General Agreement on Tariffs and Trade (GATT), member countries are committed to incorporating agriculture into the GATT agreement. If this occurs, it will make the markets for agricultural products in member countries more accessible to foreign producers and will likely require a phased reduction of government support levels in member countries.

A central element in Canada's position, which has been strongly supported by British Columbia, is the need for a strengthened and clarified GATT Article XI to permit operation of effective, efficient domestic supply management programs.

The Uruguay Round of GATT negotiations was suspended in December of 1990, but those negotiations forced industry and government to look at the reality of increasing global competition and the need to ensure that all British Columbia agri-food and fisheries programs and policies are consistent with our GATT obligations.

National Policy Related to Trade and Competitiveness

A number of developments that will affect the trade position and the competitiveness of British Columbia's agriculture and food industries occurred in 1990 in connection with the National Agri-Food Policy Review. The Review, begun in 1989, has as its central focus the redefinition of the respective roles and responsibilities of the various

levels of government and industry concerning agriculture and food. Federal budget deficit reduction targets are a major concern of the government of Canada. British Columbia's participation is driven by a desire to see its industry remain competitive within Canada and to ensure that B.C. producers are given equitable consideration in federal agriculture policy. The most significant activities of the Review with respect to trade and competitiveness include the following:

- The Provincial Agriculture Research Councils, through the National Research and Technology Transfer Committee, assigned an order of priority to the various national research activities related to agriculture.
- Farm finance and management changes were recommended and are being considered by the national Farm Finance and Management Committee.
- Supply management task forces produced consultative documents in June, 1990 and continued to wrestle with proposals for change to ensure a continued competitive B.C. dairy and poultry sector. The two supply management task forces did not have Ministry representation, but B.C. industries were well represented.
- An expert committee quantified the net benefits to producers of government policies, actions, and programs related to agriculture. The study examined the various provinces and compared the benefits available to several commodity groups.
- Options for changing the federal Feed Freight Assistance Program and the federal Western Grain Transportation Act (WGTA) were presented to Ministers by the National Agriculture Transportation Committee. A process of industry consultation to be undertaken in 1991-92 was examined. The federal Feed Freight Assistance program contributed $5.5 million towards feed transportation costs for British Columbia livestock producers in 1990-91 at an average contribution of $11.50/tonne. B.C. has clearly stated its position that Feed Freight Assistance should continue to ensure regional equity for areas deficient in feed grain production, such as British Columbia's livestock-producing regions.
- Canadian competitiveness in the agriculture and food sector was considered by a broad-spectrum task force. The key report recommends improved co-operation between suppliers and customers, improved productivity in food processing, an improved regulatory framework and ongoing consultation.

Strategic Planning

This year, many areas of the Ministry began to work actively with industry to initiate and revise industry development plans. The strategic planning process involves the development of a commodity profile, followed by the creation of a formal development plan. This process was assisted by ARDSA funding in the amount of $270,000.

As of March 31, 1991 profiles have been completed and published for the following agricultural industries:

- sheep
- grains and oilseeds
- beef
- forage
- nursery crops
- broiler chickens
- broiler hatching eggs
- turkey
- floriculture.

Research into the state of the following agricultural industries has also been initiated:

- pork
- veal
- dairy
- blueberry
- mushroom
- cranberry
- raspberry
- strawberry
- fresh vegetable
- processed vegetable.

The Ministry's Aquaculture and Commercial Fisheries Branch, in conjunction with industry, produced a new profile of British Columbia's young aquaculture industry. Dramatic changes and quick expansion of the industry since the first strategic planning document for aquaculture was produced in 1985 indicated the need for this reassessment. The British Columbia salmon aquaculture industry experienced extremely rapid growth through the latter half of the 1980s with industry production increasing from approximately 120 t (tonnes) in 1985 to approximately 12,000 t in 1989. In the process, salmon farming became an important economic player in the province, particularly in specific coastal areas.

To improve the information base on the industry, the Ministry commissioned a detailed analysis of B.C.'s salmon farming industry. A major part of the consultant's work program involved a confidential economic survey of salmon farming companies. The resulting report, The British Columbia Salmon Aquaculture Industry: Financial Structure, Status and Issues (July 13, 1990), is an independent audit of the industry. It revealed that the industry has created over 1,110 full-time jobs with an estimated payroll of $26 million and that 12,385 t of salmon were produced in 1989 with an estimated wholesale value of $85 million. The commercial fisheries industry is also developing an "industry profile" and strategy (for information on factors affecting the commercial fishing industry, see "Jurisdictional Issues—Fishing, under "Management Accountability").

A further strategic planning activity focused on issues related to British Columbia's agricultural workforce. With the expansion of many farm operations, a number of issues relating to human resources have emerged. Consequently, this Ministry in cooperation with Employment and Immigration Canada, the British Columbia Ministry of Advanced Education, Training and Technology, the B.C. Federation of Agriculture and Agriculture Canada formed a Joint Management Committee to address these issues. The Committee held a major priority planning session in January, 1991, and agreement was reached on a number of points. The resulting plans and proposals will be published in early 1991-92 under the title The Agricultural Workforce—A Strategy for the Future.

Marketing and Market Development

With the increasing availability of imported foods in the provincial market, the agri-food and fisheries industries are placing increased emphasis on market research and development. In 1990-91, the Ministry of Agriculture and Fisheries provided support for this emphasis and took a variety of steps to help industries market more effectively:

- In the area of market research, the Ministry funded a survey on consumer knowledge and buying preferences with respect to produce. Respondents indicated strong loyalty for British Columbia produce and interest in supporting local growers and associated industries. The survey also discovered that almost a third of lower mainland produce shoppers are aware of integrated pest management (IPM) techniques that have been widely adopted by British Columbia produce growers. (British Columbia is a world leader in IPM, an innovation which controls insect pests through a combination of biological, chemical, genetic and cultural methods.) Two-thirds of consumers surveyed indicated that they would pay more for produce grown under IPM than for ordinary produce.

  This heightened consumer awareness is increasing the marketing potential of horticultural products grown with IPM methods. The implementation of IPM into marketing programs over the next three to five years is expected to provide the British Columbia vegetable, greenhouse vegetable and tree fruit industries with a substantial market advantage over competitors.

- To reinforce B.C. consumers' loyalty to local products, the Ministry undertook a major advertising campaign, "Buy B.C.

First—Quality With Care." The campaign focused on the fine quality of B.C. foods and on the diversity and economic importance of the province's food industry. The "Buy B.C. First" information package was distributed to over 1.2 million British Columbia households.

- As a follow-up, the Ministry is working with industry to encourage the prominent use of the "Buy B.C. First" symbol in the marketing of British Columbia food products. This allows consumers to identify and select products that are locally grown and processed.
- The B.C. shelf-strip identity program was introduced in two major food retail chain stores. The program also helps consumers identify British Columbia fresh and processed products on store shelves.
- The Ministry helped industry develop and undertake a survey of consumer interest in buying British Columbia grown Christmas trees. In 1990, the "B.C. Tree" tag program, in which an identity and information tag is attached to each provincially-grown tree, was developed. The tags proved to be an effective marketing tool in domestic and export markets.
- The competitiveness of the province's wine industry was greatly enhanced this year with the establishment of the British Columbia Wine Institute on August 16, 1990. Operating under the authority of the British Columbia Wine Act passed by the legislature in July, 1990, the Institute has developed a system of rigorous standards for B.C. wines, which it now monitors and enforces. Wines rated by the Institute must be made entirely from grapes grown and processed in British Columbia. Consumers can now be con fident that wines they see under the Vintner's Quality Alliance (VQA) label of the Wine Institute have been produced to world- class standards of excellence.
- The Food Choice and Disclosure Act was brought into force on March 28, 1991. The Act provides producers and processors a means to certify their specialized practices to effectively respond to consumer needs (e.g. organically grown products). Under the Act, the food industry can develop a certification program for prescribed practices and then use that certification program as a marketing tool to build consumer loyalty to their products. At the same time, it assures consumers, retailers and processors with an interest in specialty products produced in B.C. that those products are produced in accordance with prescribed practices set by regulation.
- The Ministry participated in "Food Pacific '90", held in B.C. Place Stadium in Vancouver and that showcased foods from over 50 countries. The "Super Natural British Columbia" Pavilion housed 2400 square feet of top-quality British Columbia products. The pavilion was shared by government and 16 commercial exhibitors. Featured agriculture, fisheries and food products included fresh baby gourmet vegetables, edible flowers and herbs, seafood, sparkling mineral waters, and specialty dairy and raspberry products.
- The Food and Hospitality Show '91 enjoyed great success, attracting over 20,000 visitors. The Ministry-coordinated British Columbia section incorporated 43 companies under the theme, "B.C. . Grow Prosperous With Us." Government and industry cooperated to promote British Columbia food products, thereby enhancing industry profile with the large hospitality and institutional foods industry.
- An evaluation process introduced in 1989 and further refined in 1990 looked at ways of improving the educational content of fairs and trade shows that showcase the province's agriculture, fisheries, and food products. Fairs have proven to be excellent vehicles for promoting public education and awareness of agriculture, fisheries and food issues.

Crop/Stock Protection

Weed infestations, harmful pests, and diseases can have a serious impact on the competitiveness of British Columbia's agricultural industries. Losses due to these factors cost British Columbia farmers an average $146

million annually in lost production and direct costs of control. Weed infestations alone caused economic losses of more the $40 million in 1990. The productivity of Southern Interior grasslands has been seriously reduced by knapweed and other noxious weeds, thereby escalating the cost of beef production and threatening the viability of some ranches. As well, producers within the apiculture (honeybee) industry have experienced low returns in recent years due to an infestation of harmful mites and other difficult culturing conditions. The British Columbia apiculture industry is important to the province's agricultural economy, not only for its production of honey and other products, but also because the pollination carried out by honeybees is essential to the prosperity of the fruit industry.

To address these problems, the Ministry

- continued to promote environmentally sensitive control methods such as integrated pest management
- undertook weed surveys and carried out applied research and demonstration projects to encourage efficient and judicious application of pest control products and herbicides
- assisted individual producers by providing technical advice and conducting field demonstrations
- sponsored an ARDSA research project that tests experimental herbicides to obtain information necessary for registration of herbicides on specific crops (e.g., growers of blueberries, raspberries, and asparagus greatly improved their competitive position as a result of several herbicides being registered for use on these crops)
- provided $317,000 in incentive grants to local governments to support local weed control programs and assure enforcement of the Weed Control Act; these grants generated an additional $868,000 in expenditures on weed control by local governments
- raised public awareness of the importance of controlling the spread of noxious weeds through enforcement of the Act, numerous extension and education events, and distribution of weed-control publications
- addressed the particular problem of knapweed through a range improvement initiative, which involved combinations of seeding, herbicide spraying and fertilizer application in an attempt to restore productivity (in areas of Ministry research and testing, forage production increased up to 10 times its previous level)
- is conducting work through its Crop Protection Branch to address the problems of harmful mites and other causes of low economic return in the apiculture industry.

Problems of stock protection are also prevalent in the aquaculture industry. In particular, the industry has suffered an unusually high rate of fish and shellfish deaths to algal blooms in recent years.

In response, the Ministry's Aquaculture and Commercial Fisheries Branch coordinated Plankton Watch, an industry-based program, that trains salmon farm staff to identify algae and provides them with methods to limit the loss of stock. Salmon farmers are now better prepared to avoid or withstand the effects of algal blooms. Losses to blooms dropped from 39 per cent of industry's stock in 1986 to approximately 5 to 10 per cent in 1990.

Ministry studies indicate that algal blooms have not threatened consumer safety or industry's image as a producer of safe, healthy salmon and seafood products.

Industry Development

British Columbia's agriculture, fisheries and food industries can only remain competitive if producers and processors take steps to ensure the economic viability of their operations over the long term. The Ministry accordingly supports the efforts of industry to achieve long-term sustainability. This supportiveness implies a movement of federal and provincial resources away from direct, short-term subsidy and into development initiatives that are identified as desirable and/or endorsed by industry. In 1990,

for example, the greenhouse industry requested the cancellation of its Farm Income Insurance program in favour of industry-sponsored research and development activities. During 1990-91, the Ministry provided industry development support in the areas of

- Farm Management

  Through its Farm Management Branch, the Ministry develops Enterprise Budgets that provide the production and financial information producers and government planners require to assess industry competitiveness and potential. One hundred and fifty enterprise budgets have been developed, including 37 new budgets in 1990-91. They have served as economic information bases for emerging sectors of agriculture such as fallow deer, ginseng, squab, hazelnuts, and high-density orchards in the tree fruit industry.

  The Farm Business Analysis Program was initiated in 1990-91 to gather and analyze information to identify opportunities for improving ranch profitability. Producer participants are given an on-farm analysis of their business and the opportunity to compare their business with others of similar size. This allows farmers and ranchers to identify opportunities to improve their operation's profitability.

- Courses and Symposia

  Two-day "short courses" and other concentrated training programs effectively transfer technology and management skills to producers. Hundreds of short courses, workshops, and symposia are held each year, ranging from the well-established Dairy and Horticulture Short Courses to workshops sponsored by Ministry extension staff for producers in almost every industry within the agriculture and fisheries sectors. Training programs (as discussed at greater length under "Service to Customers") are a major occupation of Ministry extension staff and are meeting with growing success.

- Research and Development Leading to Technological Innovation

  In 1990-91, beef producers adopted electronic marketing of calves. This enabled calves to be sold with less stress and appears to be increasing net returns to the producer.

  Ministry staff developed a Prototype Management Assistance Module for the tree fruit industry during 1990-91. The Management Assistance Module, which uses HyperCard on the Macintosh computer, is an experimental project designed to help with analysis of business decisions in tree fruits and other agricultural commodities.

  Also in 1990-91, the Ministry's Soils and Engineering Branch developed a computer model to evaluate various manure management practices. Traditional soil testing methods used in more arid regions are ineffective in the coastal climate. The Nitrogen Use Computer Model simulates farm processes, providing accurate guidance on ways to maximize the benefits of nitrogen from manure and fertilizer while at the same time minimizing the potential for environmental contamination.

  In addition, the Ministry continued to provide support for research and development work associated with Integrated Pest Management (IPM). This work has met with enormous success. IPM is now accepted practice in many areas of agriculture (for more information on activities related to IPM see "Marketing and Market Development," in this section and the section of this report entitled "Quality and Environment").

- Research and Development Leading to Industry Diversification

  The immense diversity of the British Columbia agri-food and fish sector keeps the industry strong through good and bad economic times. B.C. producers, with the help of the Ministry of Agriculture and Fisheries, have succeeded in

introducing many new crops and crop varieties to the province. Ministry extension staff inform producers of management systems for new varieties and of their potential for increased yield, quality, profitability and disease resistance. Through successful niche marketing and good management most of these emerging sectors have flourished.

The commercial fishing industry is benefiting from Ministry research into production of underutilized species. Medium and long-term research and technology transfer projects will help producers develop such species as scallops, geoducks, clams and Arctic char. The commercial fishing and fish processing sectors are also finding success for new products in European and American markets.

A biophysical assessment of North Coast and Queen Charlotte Islands water for salmon farming was initiated to locate prime farming areas. Over 250 resource development proposals were reviewed in the past year. Studies were funded to investigate siting and operational guidelines in order to mitigate possible conflicts between farmed fish and wild stock.

Diversification is also taking place in the horticulture industry. Over the past few years, the Ministry has assisted horticulturists to develop and apply culturing practices for kiwi fruit, ginseng, and the nursery industry. Nursery trades crop revenues for 1990, for example, increased 16 per cent over revenues for 1989 to almost $60 million.

The greenhouse floriculture industry is another emerging sector with current revenues of $74 million per year. With Ministry support, floriculture growers are developing several new crops for 1990-91 (e.g., cut Asiatic lilies, potted roses, cut Lisianthus, cut Bouvardia, and Phalaenopsis orchids).

In addition to these specific industry development initiatives, the Ministry provided comprehensive industry development support for two industries in 1990-91:

- The Horse Industry

  The Ministry's Horse Industry Development Program concentrated this year on completing a comprehensive survey on the size and economic impact of the horse industry, as little information had previously been available. The survey consisted of a questionnaire mailed to 10,000 horse owners. Responses to the survey indicate that over 14,000 households in British Columbia own 75,000 horses, and that the industry supports over 5,000 full-time equivalent jobs. The Program also helped industry organize the first annual Horse Industry Short Course in November, 1990, as an effective way of communicating new ideas in breeding, marketing, farm management and other skills to horse owners. Over 300 owners attended.

- The Tree Fruit Industry

  In 1990, the competitiveness of the British Columbia tree fruit industry was examined in a Commission of Inquiry chaired by Commissioner Peter Lusztig. The report documented a growing financial crisis in the tree fruit industry and proposed a variety of solutions. Industry reaction to the report was solicited at public hearings throughout the Okanagan, Kootenays, Fraser Valley and Vancouver Island.

  The Okanagan Valley Tree Fruit Authority (OVTFA) was created by an Act of the Legislature on July 25, 1990. The OVTFA's mandate is to revitalize the B.C. tree fruit industry to ensure its ongoing competitiveness and self-reliance.

  The OVTFA is a Crown Corporation based in Summerland. It is managed by a Chief Executive Officer and seven government-appointed board members.

  The Authority is empowered to commission research and to purchase, sell, or lease certain orchard lands. It facilitates orchard renovation and replanting and it develops and institutes retraining and relocation programs for growers. The

OVTFA has the power to borrow money from the government and can issue notes, bonds, debentures, and other securities.

A Memorandum of understanding that ensures a smooth working relationship between Ministry staff dedicated to the tree fruit industry and the OVTFA was drafted and in place by year end.

The board of the OVTFA has developed a strategic plan for competitiveness in the 1990s called Plan 2000. The policies of the OVTFA are industry-driven and developed in concert with the entire tree fruit industry. Through this infrastructure, the province's tree fruit industry can work more efficiently towards competitiveness in the world marketplace.

Also within the area of industry development, 1990-91 was the final year for project approvals under the five-year federal/provincial Agri-Food Regional Development Subsidiary Agreement (ARDSA). Projects in progress must be completed by October 31, 1991. During the past five years, ARDSA has provided support for over 400 projects in the areas of productivity enhancement, resource development, and commodity development, which have had great beneficial impact on the competitiveness of British Columbia agribusinesses.

Quality and Environment

A concern for food safety and quality goes hand in hand with a concern for environmental protection. Both are essential if the province's agriculture, fisheries, and food industries are to remain viable in the long term. The Ministry of Agriculture and Fisheries helps and encourages British Columbia's agri-food and fisheries industries to maintain the highest standards of product quality and to focus on sustainable development. With respect to environmental protection, specific measures are in place and initiatives have been undertaken to address issues of:

- *soil preservation*
- *water conservation*
- *waste management*
- *water quality*
- *driftnet fishing*
- *reducing pesticide and herbicide use*
- *animal welfare*
- *land allocation*

Food Quality Enhancement

In addition to carrying out industry and market development programs that seek, among other things, to achieve continuous improvements in product quality (see the section on "Trade and Competitiveness"), the Ministry of Agriculture and Fisheries responded to specific public concerns in three areas during 1990-91:

- A very low incidence of antibiotic residues in milk detected by new, more sensitive analytical techniques has been causing public concern. In response, this Ministry, the Ministry of Health and

dairy producers are working together to address the issue.

A proposal for new regulations governing milk production has been approved by the industry and should be implemented in January 1992. Increased efforts on the part of producers, processors and the veterinary profession, combined with the new regulations should result in reduced incidence of residues at the farm level and no detectable residues in the finished product.

- Poultry producers in British Columbia were supported by Ministry staff in responding to concerns about egg quality and the safety of poultry meat. A national Salmonella Program and a Code of Farm Management Practice have been established.

- Ministry staff and ARDSA funding (see the section on "Financial Stability") contributed to a home study course on pesticide application, which was published in September, 1990. In accordance with the Pesticide Control Regulation, farmers must be certified in order to purchase and use restricted pesticides as of January 1, 1992. The home study course, which includes a videotape on pesticide safety, is now available through the Ministry of Environment. That Ministry will also provide certification exams. Initial producer response to the home study course has been positive. Certification of British Columbia farmers will reinforce consumer confidence in the safety of produce grown in this province.

Soil Preservation

During 1990-91, the National Agri-Food Policy Review identified the need to conserve Canada's soil and properly manage Canada's water resources to assure the ongoing prosperity of both the agriculture and fisheries sectors.

Working closely with the National Environmental Sustainability in Agriculture Committee, the Ministry of Agriculture and Fisheries and Agriculture Canada announced in August, 1990, the Canada/British Columbia Accord on Soil and Water. This umbrella document allows the federal and provincial governments to enter into specific agreements. The first agreement to be initiated under the accord was the Canada/British Columbia Soil Conservation Agreement (CBCSCA), which initiated a $5 million program of the same name (CBCSCP). Designed to remain in effect until March 31, 1994, the CBCSCP is funded through equal contributions from the provincial and federal governments. Most of the CBCSCP funds are distributed to "producer conservation organizations" established at the grassroots of the agricultural sector. This ensures that C CSCP projects are industry-driven initiatives that allow producers to acquire the expertise and funding they need to carry out conservation activities in their own communities.

Already, the CBCSCP has contributed $800,000 to the five producer groups of the Peace River region to help them fight soil erosion in that area. The groups prepared detailed work plans describing activities to be conducted over the next three years. Projects include field demonstrations of conservation farming practices, applied research, and awareness and education events.

Other public and producer awareness activities, as well as research projects focusing on the long-term sustainability of British Columbia's agricultural resources, were also initiated with CBCSCP funding in 1990-91. Eight research projects are currently underway involving nine producer groups working in conjunction with researchers and government.

Apart from this, the Ministry provided further support for soil preservation activities by expanding the Agricultural Land Development Assistance (ALDA) Program in 1990-91. ALDA provides loans of up to $75,000 per farm operation at half the average chartered bank prime rate for a 15 year term, to fund environmentally responsible projects that include farmland drainage and primary land development. Through ALDA, farmers can also request a Best Soil

Management Plan, which will include an audit of their soil management practices as well as practical suggestions that enable the farmer to install drainage systems for control of soil erosion. (For a comprehensive description of ALDA, see the section "Financial Stability.")

In a separate move, Ministry staff continued in 1990-91 to address the problem of low productivity in the wet meadow soils of the Central Interior. This has resulted in insufficient quantities of locally produced, high-quality feed to meet the needs of British Columbia's Central Interior beef industry. Applied research has shown that better use of wet meadow soils in the region can bring about a six-fold increase in production. Two hundred acres on five different ranches were tilled in 1990-91 with the Ministry's wet meadow equipment. An additional 750 acres were surveyed to determine drainage and water control designs. The information gathered and the methods applied are already being provided to producers through demonstrations and written material.

Water Conservation

Water availability in the Southern Interior of the province will limit future agricultural production if careful management programs are not devised. A long-term commitment to achieving on-farm conservation is necessary to maintain stable production in the region.

A study completed in 1990 indicated that metering is an effective means of implementing water conservation measures. Meters were installed to monitor the impact of different irrigation systems, crop types and soils on the amount of water used annually. The project will continue for the next five to seven years. The resulting studies will form the basis for guidelines on water conservation practices. It is hoped that adoption of more sophisticated practices will ultimately increase the amount of water available for crop production and the amount of land that can be irrigated.

During 1990-91, expansion of the ALDA program, which covers irrigation and other environmentally responsible water supply management projects, provided increased support for efforts to conserve water supplies in areas where shortages pose a problem.

Waste Management

The B.C. Federation of Agriculture (BCFA), the British Columbia Ministry of Environment and this Ministry have developed a "Code of Agricultural Practice" to outline acceptable waste management practices. The Code delineates, for example, manure storage requirements that are acceptable to both industry and those who advocate stringent environmental protection measures. The Code also sets out land application requirements to ensure that manure is handled as fertilizer rather than as waste. The Code is in the final discussion stages, and will likely be incorporated into the regulations of the Waste Management Act in 1992.

To help producers adapt to the proposed Code of Practice, the B.C. Agriculture Environmental Protection Council was formed. Administered by the BCFA, and supported by Ministry staff, the Council provides a program of "peer review" for dealing with instances of potential environmental contamination. Trained producers respond to complaints about possible pollution on a farm, perform their on-site inspection and provide recommendations on the actions, if any, required to solve the problem.

Expansion of the Agricultural Land Development Assistance (ALDA) Program provided tangible support for improved waste management practices at the farm level. The expanded ALDA program now includes waste management and soil conservation systems and fencing to prevent wildlife damage. Through ALDA, producers receive advice and, if necessary, low-interest, long-term loans for appropriate development and improvement projects. By requesting a Best Waste Management Plan, farmers can receive an

audit of their waste management practices along with practical suggestions on how lakes, creeks, and streams can be protected from waste run-off. (For a comprehensive description of ALDA, see the section "Financial Stability.")

The Ministry of Agriculture and Fisheries also took steps during 1990-91 to address the issue of fish waste disposal. The province's salmon farming industry and numerous Vancouver Island fish processing companies requested Ministry leadership and assistance in resolving existing problems.

Both government and industry agreed that fish waste is a usable resource, not a useless inconvenience. Accordingly, $300,000 in provincial government funding was made available from the Sustainable Environment Fund (SEF) to support the development of a new fish waste utilization facility on Vancouver Island. The Ministry's cross-sectoral review committee awarded the grant to the University of British Columbia (UBC) Research Farm for its proposal of a modern fish waste composting facility at Oyster River. Employment and Immigration Canada provided an additional $430,000 for the project, while UBC, fish processors, and the salmon farming industry provided a further $225,000 in capital support. Operating costs during the first two years are to be covered by waste drop off fees to fish farms, product sales revenue and a contribution of $145,000 from the Western Economic Diversification Fund.

The technology and processes developed at the UBC facility will be readily available to both public and private sectors throughout the province. The technology also promises to be applicable to waste products other than fish.

Water Quality

Ozone is commonly used in the aquaculture and seafood processing industry in Europe as a means of purifying and disinfecting water. It is tasteless, an effective disinfectant and dissipates rapidly without any further treatment. These properties make it an environmentally friendly alternative to chlorine.

The Ministry has actively promoted the use of ozone technology within the aquaculture and seafood processing industries. During 1990-91 arrangements were made to bring international experts to explain and demonstrate the ozone technology to B.C.'s seafood community. The ozone method of water quality control has already been adopted by three salmon hatcheries and is being promoted for use in seafood processing.

Driftnet Fishing

Over the last two years, British Columbia has taken a leadership role among Pacific Rim countries in the fight against the North Pacific driftnet fishery. Driftnet catches not only jeopardize the ecology of the North Pacific Ocean, but also undermine B.C.'s salmon markets through sale of illegal salmon catches.

The concerted international effort that brought about the 1989 United Nations resolution for a moratorium on driftnet fishing as of June, 1992 was a major achievement. This Ministry continues to contribute to the ongoing research and dialogue on the issue which will culminate in the United Nations General Assembly debates in the autumn of 1991.

During 1990-91, the Ministry supported two of the ten Canadian observers on Japanese squid fishing vessels in order to contribute to the international pool of knowledge of the driftnet fishery. This research and observation program is part of a joint effort by Japan, the United States and Canada to gather accurate data on this fishery. During the spring of 1991, the Ministry will also take part in military surveillance missions of illegal northern salmon fishing.

As a further measure, on March 28, 1991, the Ministry hosted the British Columbia Driftnet Symposium in Vancouver. The symposium was developed as a forum for response and learning about the driftnet

issue. The Ministry has undertaken to transmit the public submissions to Canada's Ambassador to the United Nations in the fall of 1991.

Presentations were made by the South Pacific Forum Fisheries Agency, Fisheries and Oceans Canada, the Canadian Armed Forces, the United States Pacific Marine Commission, private industry, the Ministry of Agriculture and Fisheries and members of the general public. Students from Nova Scotia, Newfoundland, Alaska, Washington, Oregon and Idaho brought messages of support from their governments and community leaders. These students were joined in the Youth section of the Symposium by 300 representatives from Lower Mainland and Sunshine Coast schools.

Reducing Pesticide and Herbicide Use

Over the past several years, the Ministry of Agriculture and Fisheries has supported the development of Integrated Pest Management (IPM) technologies and promoted their use. IPM involves the combined use of biological, chemical, genetic and cultural methods to defeat harmful weed or insect populations. Through careful monitoring of the problem and exploration of alternative control methods, use of pesticides and herbicides is greatly reduced.

Potato, onion, and carrot growers, together with greenhouse vegetable operators are leading North America in the development and adoption of IPM technologies. IPM strategies are also used widely across all sectors of agriculture.

In the particular field of biological weed control (the development and release of "good" insects, which attack specific problem species), British Columbia is a North American leader. To date, 37 bioagents have been released against 15 weeds in the province.

During 1990-91 the Ministry's Biological Control Program continued its co-operative work with the International Institute of Biological Control in Switzerland. Using $57,000 in granted funds, the Institute screened and collected three insect bioagents for Dalmatian and common toadflax, two agents for houndstongue, and three for knapweed. In addition, 13 bioagent species were redistributed throughout the province in 1990 to successfully address several persistent problems:

- suppression of leafy spurge is evident at initial release sites
- tansy ragwort has been controlled at one site in Abbotsford, while growth and flowering are suppressed at other sites where bioagent populations are high
- nodding thistle is now successfully controlled with bioagents in the Chilcotin, Princeton and Boundary districts; Canada thistle and bull thistle seed production has been reduced by attacks from a seed head weevil and gall-forming fly respectively
- combined attack by a previously released root-boring beetle and two seed-reducing flies has reduced knapweed cover at White Lake by 60 per cent and seed production by approximately 98 per cent.

To help growers recognize the various beneficial insects being released, the Ministry has published an insect recognition guide (see the section on "Service to Customers").

In a slightly different approach to controlling the growth of unwanted vegetation on clear-cut logging sites, sheep are being used in many areas of the province as an alternative to herbicide spraying. Over 10,000 head served this purpose in 1990, and the number may double in 1991.

This program has increased interest in sheep production, though at the moment many sheep are imported from other provinces. The Animal Health Branch of the Ministry has been working with the sheep producers on a program to control and eliminate the spread of infectious diseases such as footrot, pinkeye, parasitism and Caseous Lymphadenitis among sheep.

Also during 1990-91, Ministry staff, in cooperation with Agriculture Canada research staff, continued their work on developing an alternative to broad-spectrum residual insecticides as a means of controlling codling moth in British Columbia's apple and pear orchards. This IPM technology involves saturating an orchard with sex pheromone so that male moths cannot locate female moths to mate. An evaluation and demonstration project funded under the Ministry's Demonstration of Agricultural Technology and Economics Program proved extremely successful.

Animal Welfare

During 1990-91, the Ministry of Agriculture and Fisheries became responsible for administering the Prevention of Cruelty to Animals Act. This legislation is being reviewed, in consultation with the Society for the Prevention of Cruelty to Animals (SPCA) to provide a more effective enforcement system and to discuss amendment options. No proposals have been tabled in the legislature as yet.

The Ministry recognizes the need for a balance between the needs of consumers and producers and the concern for animal welfare in farming operations. It has encouraged the adoption of the Recommended Codes of Practice for the Care and Handling of Animals which has been coordinated by the Canadian Federation of Humane Societies. Through research and extension projects and careful monitoring of commercial situations Ministry staff identify and work to minimize the causes of stress of farm animals.

Land Allocation

In many areas of the province, expanding demand for land has put pressure on the limited supply of available farmland. Conflicts over the use of land and other resources for purposes as varied as farming, fisheries, urban development, forestry, parks, mining, recreational and tourist use, wildlife sanctuaries and Native land claims are constantly increasing. Ministry staff are involved in dealing with many of these land and water use issues, as the decisions made will affect the future viability and development potential of many industries within the agriculture and fisheries sectors.

In the Lower Mainland, Vancouver Island and Okanagan areas, for example, there has been a significant increase in the number of applications to approve golf course development proposals within the Agricultural Land Reserve. Over 200 new applications for golf course development were filed with the Agricultural Land Commission in 1990-91.

One particularly important development with respect to land use during 1991 was the Canada-United States Pacific Coast Joint Venture. The agreement will provide for the purchase by the United States of significant amounts of agricultural land in the Delta and on Southern Vancouver Island to assure its availability as habitat for migratory waterfowl.

Service to Customers

The Ministry of Agriculture and Fisheries serves the public of British Columbia, focusing particularly on the needs of industries within the agriculture, fisheries and food sectors. In addition to serving the province's taxpayers by providing advice and assistance to their elected representatives carrying out public policy and administering provincial legislation and mandated programs, Ministry personnel provide a number of more direct services:

- *assuring industry consultation*
- *providing producer education, training, and advisory services*
- *increasing public access to information*
- *animal health protection*
- *safety promotion*
- *youth development*

Assuring Industry Consultation

The Ministry of Agriculture, Fisheries and Food is committed to ensuring that the public and industry have input into Ministry decision-making processes, wherever appropriate and relevant.

During 1990-91, creation of the British Columbia Wine Institute provided an example of how industry input and involvement were sought. Creation of the Institute was a joint industry-government initiative in which industry took an active role: the nineteen founding members of the Institute represent the various sectors of the industry—grape growers, Estate Wineries, Farm Wineries and Commercial Wineries. Due to the success of this joint government-industry initiative, the quality of many British Columbia wines now matches or surpasses that of competing American and European wines.

Another example of the Ministry's commitment to consultation is the Research Coordination Program, a new initiative in 1990. This Program was established to help industry influence agricultural research and technology transfer expenditures in British Columbia at a time when Agriculture Canada is re-examining its role in research and the Science Council of B.C. has increased funding for applied research.

A key feature of the Research Coordination Program has been the establishment of the Agriculture Research Council. This council is driven by three production-based research committees (animal, plant and food) that have 70 per cent industry representation. The council will start to have an impact in 1991.

At the same time, recognizing that agricultural research activities represent an important service for industry, the Ministry continued to support the B.C. Aquaculture Research and Development Council, which establishes priorities, sources funds and co-ordinates aquaculture research and development activities.

Producer Education, Training, and Advisory Services

The Ministry recognizes the importance of distributing accurate, current and comprehensive information to the food producers of British Columbia on major industry issues such as changes in technology, market conditions or the sector's operating environment.
Ministry staff province-wide work to produce educational resource materials, facilitate technology transfer through courses, symposia, workshops and publications and evaluate the effectiveness of services.

The Ministry's extension education resources consist of approximately 150 major publications, factsheets, district office newsletters and bulletins, and over 295 audio visual materials including video tapes, displays and brochures.

Many of these materials are considered "core" publications and are updated and produced regularly (up to 50 per year). These include production guides for major crops such as tree fruits, grains and oilseeds, vegetables, berries, grapes, mushrooms, greenhouse floriculture and the nursery trades.

This year a standardized reply form was included in production guides and other publications to receive customer feedback on the quality and relevance of the materials. Over 80 per cent of respondents considered the material relevant and excellent overall. Constructive comments led to improvements in published materials such as use of higher-quality paper and changed layout design.

One area where new information is required is the tree fruit industry. To help apple growers who are experimenting with higher density crops such as Jonagolds and Galas, the Ministry developed an orchard planning package. The package assists orchardists to analyze each step of their operation to assess the costs and benefits of renovating. The Farm Management Branch's Enterprise Budgets for all soft fruits and for several high-density apple varieties are included in the package. The package was printed and made available March 31, 1991.

Producers also expressed a need for new information on cultural and non-chemical controls and production methods. Accordingly, a number of publications were issued on Integrated Pest Management (IPM) technology, which combines cultural, genetic, biological and chemical methods of pest control (for more on this subject, see "Reducing Pesticide and Herbicide Use" in the section on "Quality and Environment"). The Crop Protection Branch, for example, has published a 62-page field guide outlining beneficial and harmful insects and mites. Funded by the British Columbia Fruit Growers' Association and the federal/provincial ARDSA program, the field guide will help growers maximize the use of beneficial parasites and predators, thus reducing their need for herbicides and pesticides.

In a separate initiative, the Ministry provides funding through its Demonstration of Agricultural Technology and Economics (DATE) Program for projects that demonstrate innovations in the agriculture industry. The DATE program, which has been in effect since 1974, continues to be a cost effective way to demonstrate technology that addresses problems in the agriculture industry. In 1990-91, $137,500 in Ministry funds together with $23,372 from the private sector and the federal government were contributed to nineteen new and ongoing projects such as the following:

- through the Biolog section of the program, plant disease management techniques were introduced to growers. Using this technology, growers can detect and identify bacterial diseases faster than previously. Control measures can then be started earlier and the most effective disease management techniques can be used for the particular bacterial species identified.
- a project was carried out to evaluate the effectiveness of drainage water recovery and recirculation in greenhouse vegetable operations. The project discovered that new recirculating technologies can reduce ground water pollution by decreasing the amounts of fertilizer and other effluent that drains from greenhouses.

As a further development this year in the provision of education, training and advisory services to producers, the Ministry, private industry and B.C. Systems Corporation undertook joint development of marketable "Hypertext" software. This software is being designed to facilitate future technology transfer.

Providing Public Access and Information

During 1990-91, the Ministry relocated a number of its offices into provincial government Access Centres, which group together the offices and services of several provincial government ministries. This enables Ministry staff to provide better and more convenient service to public and industry clients.

On October 7, 1990, a number of Ministry staff (both aquaculture and agriculture specialists) moved to the new Access Centre in Courtenay.

Because of Courtenay's proximity to the majority of clients in the aquaculture and commercial fisheries sectors, the regional office facilitates client access to the Ministry's aquaculture licensing, enforcement, field inspection and extension services. Agriculture staff at the Courtenay office are also now in a position to better serve their clients.

Ministry offices in Salmon Arm, Smithers, Vanderhoof and Duncan were also selected for incorporation into Access Centres. The Smithers Access Centre was under construction in 1990-91, while the Vanderhoof and Duncan centres are in planning stages. The Ministry office move to the Salmon Arm Access Centre is complete.

As part of its commitment to providing the public with current information about the agriculture, fisheries and food sectors as well as Ministry operations, the Ministry updated a number of its information pamphlets and brochures in 1990-91. In addition, a touch screen computer module was developed to promote agri-food and fisheries awareness in trade shows and exhibitions. First used at Aquaculture International in 1990, this stand-alone, user-friendly computer allows a casual or expert observer to access a broad spectrum of information on the agriculture, aquaculture, fisheries and food components of the Ministry and the province. The module is now located in the reception area of the Ministry headquarters to introduce visitors to the role and functions of the Ministry and to the various aspects of the industries it oversees.

In another move to improve public access to information about Ministry operations and the sector, the Ministry's agriculture and fisheries infobase on the B.C. Business Network (available free of charge to agricultural producers) was expanded considerably in 1990-91. The Infobase now consists of over 3,100 selections containing in excess of 12,000 pages of information.

Animal Health Protection

The Ministry places a high priority on the protection of animal health. Its efforts in this regard constitute an important service to livestock producers and aquaculturists throughout the province. The service simultaneously promotes animal welfare, assures the quality of B.C. livestock and aquaculture products and protects the competitiveness of the industries that produce these products.

To help industry fight and prevent livestock diseases, the Ministry monitors the incidence of disease and takes any control and preventative measures necessary to prevent spread. To support this activity, the Ministry operates a pathology laboratory at the Animal Health Centre in Abbotsford. The Animal Laboratory service is frequently reviewed with industry clients, many of whom see it as providing an essential service which has no available counterpart in the private sector.

Among the activities carried out by the Animal Health Centre in 1990-91 were

- the monitoring and promotion of herd health in breeder and commercial swine and poultry flocks
- the monitoring and control of Aleutian Disease in mink, of infection in poultry hatcheries, and of footrot in sheep
- the prevention and control of Nocardia mastitis and mastitis, particularly in dairy cattle
- the prevention of diarrhoea in calves and piglets
- the prevention of Salmonella in various species

Ministry leadership in many of these programs is supported by advisory and financial contributions from industry and each of these programs has resulted in improved animal health.

The Ministry has also been involved in measures to control diseases in the game farming industry, particularly with respect to reindeer. The fledgling reindeer industry awaits the conclusion, expected in May 1991, of the Besnoitia Research Project being conducted to determine the effects of disease transmissibility among reindeer, wildlife, and domestic livestock. The results will affect the future of the reindeer industry in the province.

In a further development, reindeer imported from the Northwest Territories were placed under quarantine by Agriculture Canada for brucellosis. Affected animals were eliminated and a clean health status is expected in 1991. Bovine tuberculosis was detected on one large fallow deer farm, causing all in-contact animals (three farms) to be slaughtered. There has been no recurrence of the problem in any other herd.

Apart from these efforts to control disease, the Ministry's Animal Health Branch provides brand inspection services to the province's livestock owners and gathers livestock statistics for provincial or federal/provincial livestock support and insurance programs. The incidence of shot and butchered livestock increased in 1990-91 despite road blocks and range patrols by branch staff. Nevertheless, the brand inspection program is highly respected by producer groups as a source of security for livestock producers.

Also in 1990-91, Aquaculture and Commercial Fisheries Branch staff undertook research into the incidence and severity of diseases on salmon farms through the "Snapshot Program." "Snapshots" are the results of surveys which monitor the timing and frequency of certain diseases to determine short and long-term trends. The program will provide farmers, the research community and regulators with the information critical to managing fish diseases and planning research efforts. Snapshots have been completed for the Fall and Winter periods, and Summer and Spring survey results are expected in 1992. (For further information on Ministry activities designed to protect the well-being of cultured salmon stocks, see "Crop/Stock Protection" under "Trade and Competitiveness.")

Safety Promotion

Drastic weather conditions such as floods can cause significant economic losses for producers. Therefore, the Ministry is taking a lead role with producers in developing emergency preparedness strategies. Ministry staff are now becoming better trained to help producers through emergencies with the least possible disruption.

In addition, the Ministry is moving to address the issue of the unsafe diving practices allegedly undertaken at some salmon farms. As there are no existing regulations concerning diving standards, unsafe practices on salmon farms could go undetected. During 1990-91, Aquaculture and Commercial Fisheries Branch staff sponsored and organized a Farm and Diving Safety workshop which was held in Campbell River. A representative of the Workers' Compensation Board gave a presentation on diving safety. Proceedings from the workshop will be made available to the salmon farming community.

Youth Development

Many young British Columbians have a very limited view of food production industries. In 1988/89, B.C. agricultural producers, educators and government facilitators followed the lead of other areas of the United States and Canada in forming an Agriculture in the Classroom Foundation. The objective of the Foundation is to provide teachers and students with food production information for incorporation into their normal subject matter.

The Foundation was registered this year as a charitable organization. Members formalized the organization's administrative struc-

ture by developing a business plan and intend in 1991-92 to hire contractors who will develop and test course material for use as a classroom resource. Delivery of the first British Columbia based course modules is expected in spring 1992.

Another important Youth Development initiative undertaken by the Ministry in 1990-91 was a developmental assessment of the 4-H Program, which receives ongoing Ministry support. Although membership and leader participation in British Columbia's 4-H Program continues to grow (4-H membership increased by 87 to almost 3000 youth in 221 4-H clubs, and adult leader participation increased by 44 to 908), membership demographics are changing from primarily farm to more rural non-farm and urban participation. In 1990-91 the membership breakdown was 53 per cent from rural non-farm families, 38 per cent from farm families, and the remaining nine per cent from urban families.

4-H is based on an agricultural theme and over several decades has evolved into a personal development program for youth. Members between 9 and 19 years of age select projects of personal interest and participate in programs such as public speaking, skill demonstrations, travel and exchange programs, conferences, achievement days, fairs and exhibitions and scholarship and awards programs.

Results of the Ministry's developmental assessment are expected to be available in 1991-92.

Financial Stability

The Ministry of Agriculture and Fisheries administers a variety of financial programs designed to help producers manage the risks which can affect their industry and to help them work towards long-term prosperity through market development, environmental initiatives and strategic industry planning.

GRIP and NISA

On March 28, 1991, the government of British Columbia announced provincial participation in the federal Gross Revenue Insurance Plan (GRIP). Formulated as a result of the National Agri-Food Policy Review, GRIP is a combination of the existing Crop Insurance Program and a new Revenue Protection Plan. Through GRIP, grains and oilseeds producers in British Columbia can purchase yield and/or price protection to ensure greater income predictability. Applications will be received for the 1991 crop year.

British Columbia's entry into the federal/provincial Net Income Stabilization Account (NISA) Program, is currently under negotiation. If these negotiations are successful, B.C. is expected to join NISA in spring 1991, in time for retroactive coverage of the 1990 crop year. Like GRIP, NISA was developed as a result of the National Agri-Food Policy Review. The NISA Program allows grain and oilseed growers to deposit up to two per cent of their net sales into NISA accounts in good years. Their deposits will be matched by government contributions. In years of low farm returns, they can withdraw their augmented savings.

Farm Income Insurance Program

The objective of the provincial Farm Income Insurance (FII) program is to reduce farm losses caused by detrimental price fluctuations such as low market return or rapidly escalating input costs. The program covers specific commodities with premiums and indemnities based on the number of production units sold. The Ministry provides funding for a portion of the premiums as well as the administration costs. Government premiums for the 1990 crop year amounted to $16,767,000.

The FII Program this year embraced eight separate commodity plans: beef, blueberries, potatoes, processing strawberries, processing vegetables, sheep, swine and tree fruit. Of the 4,250 participants, most were from the beef or tree fruit sectors. Indemnity payments for those plans for the 1990 crop year are expected to total $28,000,000.

Canada/British Columbia Crop Insurance Program

The voluntary Canada/British Columbia Crop Insurance Program stabilizes farm income on an individual basis by minimizing the economic effects of crop losses caused by specified natural perils (e.g., drought, hail, flood and frost). The program makes basic crop loss protection available to farmers in the form of a production guarantee. Farmers pay 50 per cent of premiums while Canada and the province each pay 25 per cent of premiums and share administration costs equally.

Since its introduction to the tree fruit industry in 1967, the Crop Insurance Program has expanded to embrace seven plans covering 28 insurable commodities. For the 1990 crop year, 2,222 farmers insured crops for coverage totalling $84.2 million. This represents an increase in coverage of $2.6 million over that purchased in 1990.

The federal Crop Insurance Act was amended in 1990 to set higher standards for operation and control of the program and to change the cost-sharing formula that existed between the governments of Canada and British Columbia. Final details of the new agreement were still under negotiation at the fiscal year end.

National Tripartite Price Stabilization Plans

The federal/provincial National Tripartite Stabilization Plans are designed stabilize prices in order to reduce income loss to producers from market risks. The program is voluntary, and is cost-shared between Canada, the province, and farmers. Plans are currently in place for apples, beef, lambs, hogs, honey and onions.

In 1990, the Ministry began contracting beef and hog farm organizations to act as agents to deliver certain aspects of the programs. Due to their proximity to and frequent communication with the farming industry, these groups are particularly well-suited to serving clients effectively and economically. This cooperative effort is unique in Canada and provides a very efficient delivery system.

ALDA

The Agricultural Land Development Assistance Program (ALDA) provides loans (up to a set maximum) per farm operation for environmental enhancement projects, irrigation, farmland drainage, orchard renovation and primary land development. Under ALDA, producers can also obtain certain types of technical assessment and advisory services.

Major changes to the ALDA Program were implemented during the fiscal year to expand the number and type of projects eligible for assistance to include foreshore development for the aquaculture industry, fencing to prevent crop damage by wildlife, facilities for waste and chemical storage, and additional types of soil conservation measures. The maximum loan available was increased from $50,000 to $75,000 and the restriction on non-farm earnings was removed. ALDA loans are issued at half the bank prime rate for a 15 year term.

The changes to the program increased

demand over what it had been in previous years by approximately 50 per cent in terms of application numbers and 80 per cent in terms of application dollar values. During the fiscal year, 146 applications valued at $4.317 million were received, and loan contracts valued at $3.883 million were issued. It is anticipated that requests for environmental project loans will further increase demand for the program during the next fiscal period.

ALDA loan administration has been transferred during the past fiscal year to the Loan Administration Branch of the Ministry of Finance and Corporate Relations, though this Ministry remains responsible for evaluating and approving loan applications.

ARDSA

The 1990-91 fiscal year saw the final commitments made under the $40 million federal/provincial Agri-Food Regional Development Subsidiary Agreement (ARDSA). All projects must be completed by October 31, 1991.

ARDSA funding was directed to projects in three areas:

- productivity enhancement, which includes market development, agribusiness education, and technology transfer
- resource development, including soil conservation and improvement, irrigation and drainage projects
- commodity development, which assists the development of specific agri-business sectors.

CBCSCP

The four-year, $5 million Canada/British Columbia Soil Conservation Program (CBCSCP) was launched this year under the Canada/British Columbia Soil Conservation Agreement (CBCSCA). This agreement represents the first to be signed under the Canada/British Columbia Accord on Soil and Water.

The program will fund industry-driven activities which, within practical economic limits, will sustain long-term soil productivity and protect surface and ground water sources.

As well, research projects funded by the Agreement will expand the existing knowledge base on key soil and water issues including nitrogen behaviour, manure treatment and management, organic soil management, the effects of soil degradation and conservation on soil quality and the economics of soil management. (For details of the activities funded under the CBCSCP during 1990-91, see under "Soil Conservation" in the section on "Quality and Environment.")

Canada/British Columbia Grape and Wine Sector Adjustment Assistance

The restructuring of British Columbia's grape and wine industry began in 1989, with assistance of the Canada/British Columbia Grape and Wine Sector Adjustment Assistance Program. This six-year, $28 million program is designed to compensate British Columbia grape growers for loss of production assets, to assist wineries in the purchase of grapes at 1987 prices, to counteract cost escalation in grape production and to assist with the marketing and promotion of premium B.C. wines. All disbursements likely to occur under the Program have been made, with the exception of $244,644 outstanding for vine removal costs and $898,000 for marketing support.

Marketing and promotional activities have been organized under the direction of the British Columbia Wine Institute. As a result of these activities, the sale of high quality B.C. wines has increased substantially.

The Institute, an association with members from the province's commercial, estate and farm-gate wineries, is developing appellation standards for B.C. wines. B.C. wines will have to meet those strict production standards in order to carry the Vintners Quality Alliance (VQA) seal.

Guaranteed Loan Program

The Guaranteed Loan Program assists British Columbia farmers who have insuffi-

cient loan security but otherwise viable farm operations to obtain credit from commercial lending institutions. This fiscal year six loan guarantees were issued totalling $981,250. At the end of the fiscal year, there were 36 guarantees outstanding totalling $3.29 million.

Feeder Association Loan Guarantee Program

A new livestock feeder program was launched in September 1990 to encourage the growing and finishing of cattle and sheep inside the province. Animals bred in B.C. had usually been exported to feedlots in other areas. Two feeder associations have been formed to date with the help of guaranteed loans totalling $3 million which will enable the purchase of 5,000 head of cattle.

Special Assistance Programs

Four industries within the agriculture, fisheries, and food sector required the provision of special assistance programs in 1990-91:

- Apple Growers
  Delivered in August 1990, the Canada/British Columbia 1990 Special Income Assistance Program for Apple Growers was an ad hoc program designed to assist producers who suffered severe income losses as a result of low apple prices in 1989. Through this program, the provincial government paid four cents per pound to approximately 1,200 growers for their 1989 crop, commercial grade and better. With federal government contributions of $6.196 million, total program costs amounted to $14.2 million.

- Greenhouse Vegetable Producers
  The vegetable greenhouse industry received a $360,000 grant this year to establish a research trust fund that will support research and market development. The industry will be contributing to the fund on an annual basis.

- Grain and Oilseed Producers
  The "Canada/British Columbia 1990 Special Income Assistance Agreement for Grains and Oilseeds" was announced August 16, 1990 to help alleviate the hardship caused by severe price reductions in that sector. The federal and provincial governments jointly contributed $4.39 million towards the 889 farmers who applied for assistance under this program.

- Fur Farmers
  The fur farm industry also suffered due to severe price reductions for its product. The Ministry accordingly assisted in the delivery of $1.7 million of federal funding to the fur farmers of British Columbia.

Management Accountability

The Ministry regularly updates and improves programs, branch organization, internal communications and legislation to maintain its high level of efficiency and service to customers. Jurisdictional issues are addressed through consultation and negotiation with other provincial Ministries and/or appropriate contacts with representatives of other levels of government.

Structural Changes, 1990-91

The Ministry created the Food Industry Development Services Branch to help industry meet the challenges of broadening international trade and diversifying consumer demands. The branch will focus on the food processing industry, trade, market development and regulated marketing.

The Policy and Legislation branches were reunited this year to form Policy and Legislation Services. This change is intended to consolidate and ensure continuity in Ministry policies and to enhance the ability of the Ministry to support industry with enabling legislation.

To support the delivery of the Ministry's long-term strategic planning objectives, a Corporate Planning Office was established. The office is to provide guidance to the Ministry executive, regional offices and branches in the effective development and implementation of clearly focused and integrated business plans. The office has provided guidance, advice and assistance in the development of the Okanagan Valley Tree Fruit Authority Corporate Strategic Plan (Plan 2000), and assisted in the facilitation and development of the jointly-funded federal/provincial strategic plan to deal with agricultural labour in the province (Agricultural Workforce—A Strategy for the Future).

In addition, the Corporate Planning Office is coordinating Service Quality B.C. initiatives and providing service quality orientation and training to Ministry staff. These government-wide initiatives were integrated with the Ministry's business plan.

Established this year, the Women's Programs Branch is building an increased awareness of women's issues in the Ministry. The branch completed a Workforce Survey and Analysis, which produced a number of recommendations including provision of increased training opportunities, implementation of a gender equity hiring policy, a review of job classifications and development of a mentoring program. The survey also supported the use bridging positions and secondments to achieve gender equity.

The Ministry is working to enhance the role of women in the Ministry. Efforts have been directed at increasing the representation of women in senior management as well as in technical and professional classifications. To accomplish this, gender balance is being implemented on selection and interview panels for all Ministry competitions, and managers are being encouraged to actively recruit women for these competitions. Women are being appointed to Ministry committees and a concerted effort is being made to recommend women for appointments to various industry boards and commissions.

Technological Improvement

During 1990-91, Ministry personnel developed and implemented extensive computer-based processes in the Ministry. Improved technology was implemented and the knowledge, awareness, and skills of Ministry staff, clients and industry with respect to advanced computer technology have considerably increased. Employee

skill levels have risen through regular training programs, enabling the Ministry to function more efficiently. Productivity and internal communications have improved and technological advancement has completely altered some Ministry management processes:

- Office automation in the areas of electronic mail, word processing, spreadsheets, desktop publishing, mailing and distribution was updated to take advantage of current technologies, while computer communications networks were expanded to encompass all Ministry office locations.
- The Central Accounting Branch this year developed and implemented a comprehensive computerized budget management system known as the Financial Information Network (FIN). FIN allows all Ministry employees on-line access to pertinent financial information through the Ministry's province-wide All-In-One network.
- The research and analysis activities of the Ministry's Statistical Services unit were enhanced with the establishment of connections to a network that now links several provincial and federal ministries and agencies, colleges and universities as well as a number of international sources of agriculture-related information and statistics. Access to information resources was broadened with the addition of a micro-computer capable of acquiring information from CD-ROM, the Trade Research and Inquiry Package for export/import data, Statistics Canada taxfiler data and dial-up on-line information systems. These on-line systems include Agriculture Canada's Commodity Markets Information System and the Food Technology Exchange.
- The Aquaculture and Commercial Fisheries Branch this year implemented the Aquaculture Licensing and Revenue Administration System. A computerized management system has been set up to store and analyze data, produce licenses and related documents, track revenues and produce information reports. Policies and procedures have been implemented to effectively administer the licensing program. This is an ongoing process to ensure efficient, effective program delivery sensitive to client needs.

Other areas that have benefited from recent automation include crop insurance, dairy laboratory certification, fur farm management, public saleyard licensing, the agriculture input cost survey system and Ministry communications activities.

Ministry Communications

During this year, the Harvest All-In-One electronic network was utilized to enhance the Ministry's internal information flow regarding media issues. Media monitoring services continued to provide staff with a daily summary of all issues relating to agriculture, fisheries and food reported in newspapers, radio, television or other publications across the province. Staff members identifying a breaking issue in the media were encouraged to respond by creating an Infoback (a one-page summary of the issue) to be provided to Executive and the Minister's office on a same-day basis.

The briefing note system provides comprehensive background and recommendations on Ministry issues and initiatives. This internal Ministry communication system was also integrated into Harvest this year, allowing staff rapid access to information.

Ministry program and policy initiatives were communicated to the general public through news releases, press conferences, media interviews, advertising, information brochures and publications. Speaking notes and visual support materials were provided to the Minister and to Executive for presentation to the public, to Cabinet and to Treasury Board.

Major communications strategies were designed and implemented to publicize the release of the Lusztig Report on the tree fruit industry, the launch of the British Columbia Wine Institute, the launch of the Okanagan Valley Tree Fruit Authority, the signing of the Canada/British Columbia

Soil and Water Accord, the launch of the Feeder Association Loan Guarantee program, the British Columbia Driftnet Symposium, the implementation of the Gross Revenue Insurance Plan (GRIP), and the unveiling of the "Buy B.C. First—Quality With Care" campaign.

Jurisdictional Issues—Fisheries

During 1990-91, a number of ongoing developments affecting British Columbia's commercial fishing industry raised jurisdictional issues that affect the Ministry:

- The federal government is undertaking major changes in its management of commercial fisheries in British Columbia. In the last three years, individual vessel quota programs have replaced more traditional management regimes in the commercial geoduck, sablefish and halibut fisheries. Other non-traditional management programs such as area licensing are under serious consideration for implementation in other fisheries. These changes have potentially broad social, economic and administrative implications for the province. Some of the fisheries management changes under consideration raise fundamental questions regarding federal/provincial jurisdiction over fisheries. Virtually all of the changes are highly controversial and represent a challenge to the commercial fishing sector.

- Another challenge to the province's commercial fishing sector comes from recent GATT panel decisions that allow, for the first time, the potential export to the United States of unprocessed Canadian fish.
- A further challenge facing the sector will come from federal decisions on fisheries allocations. Land claims negotiations have been accepted by the federal government with three tribal councils. Together with the Government of Canada and the Nisga'a Tribal Council, the Province signed an historic framework agreement that lays out the items to be negotiated and a time frame for negotiations over the next two years. The Ministry is responsible for providing analysis to support the provincial position regarding fisheries aspects of claims settlement.
- Traditionally, the tidal sport fishery in British Columbia has been relatively unregulated. In recent years, dramatic increases in sport fish catches at the expense of commercial harvests have led to an escalating conflict between recreational and commercial fishermen. There is a growing demand for increased regulation of the sport fishing industry and for carefully considered public policy on the allocation of fish resources between the two user groups.

Although the federal government has overall responsibility for protection and conservation of fish resources, many aspects of the recreational fishery fall within the jurisdiction of several provincial ministries.

In 1990-91, an Inter-Ministry Committee was established with membership from the Ministries of Lands and Parks, Environment, Development, Trade and Tourism and Agriculture, Fisheries and Food to develop coordinated provincial policy with respect to tidal sport fisheries. This committee has established formal liaison with the federal Department of Fisheries and Oceans.

Considerable work has been initiated on the economic values and trade-offs between recreational and commercial fisheries. In addition, provincial regulatory options with respect to tidal sport fishing resorts, guides and charter boat operators have been identified and evaluated.

- At the same time, the Ministry is working with the Department of Fisheries and Oceans on provincial legislation to manage inland commercial fisheries. It is anticipated that some opportunities for upstream commercial harvest may emerge requiring some changes to current administrative roles.

During 1990-91, a related, albeit less complex and contentious jurisdictional issue with respect to aquaculture was resolved. A Memorandum of Agreement was signed

with the Ministry of Lands and Parks to define respective Ministry roles and clarify and streamline administrative procedures for aquaculture facilities located on Crown lands.

Legislative Initiatives

The Ministry this year introduced several new acts which will help industries within the agriculture, fisheries and food sectors to meet new market challenges:

- The British Columbia Wine Act was created in August, 1990 to facilitate establishment by industry of the British Columbia Wine Institute to represent the British Columbia premium wine industry. Through intensive marketing campaigns and the establishment of rigorous appellation standards for wines made of B.C. grown and vinted grapes, the Wine Institute has greatly increased the competitiveness of the industry.
- The Food Products Standards Act provides British Columbia with the legislative authority to develop provincial compositional standards as a marketing tool for the food processing industry. The province can now establish compositional and quality standards for processed foods that exceed those required under previous federal or provincial regulations. The province's food processing industries will thereby be able to assure consumers of the high compositional standards of their products.
- The Food Choice and Disclosure Act enables persons engaged in farming, processing, packaging and selling practices related to food products to have, at their option, their practices certified as meeting prescribed standards. Once a regulation is enacted, this legislation can provide industry with the necessary powers to administer and implement a certification program with government supervision. The Act can only be used to certify practices, not quality standards. For example, certification might denote that particular pest management practices have been followed in an apple orchard, but implies nothing about the grade or quality of the apples themselves.
- The Game Farm Act enables the orderly development of the game farming industry. The Act provides a framework for the licensing of farms for production of fallow deer, bison or reindeer. It provides for control over the management of those operations and for the protection of wild stocks from disease by ensuring that escape of farmed game is minimized. It also provides for the ability to exclude game farming from environmentally sensitive regions of the province on recommendation by the Ministry of the Environment.
- The Okanagan Valley Tree Fruit Authority Act established a Crown corporation—the Okanagan Valley Tree Fruit Authority. The legislation provides the Authority with powers to ensure an efficient and coordinated approach to the resolution of the numerous problems facing the tree fruit industry in the interior of the province.
  The Corporation has broad responsibilities to develop, redefine and tailor government programs and to stimulate private sector initiatives to assist in modernization and transformation of the industry. The Corporation also has the authority to provide funding and technical assistance to facilitate the improvement and upgrading of tree fruit production and marketing systems and to assist in the development of training, applied research, market information and promotion initiatives.

The Ministry prepared for processing 62 Orders in Council. Important changes took place under the Natural Products Marketing (B.C.) Act, the Farm Income Insurance Act and the Agricultural Produce Grading Act. One Ministerial Order this year was developed in consultation with the apiculture industry to divide the province into quarantine areas under the Bee Act.

Revenues

	1990/91 ACTUAL ($000)
SALES AND SERVICE FEES	
FARM INCOME INSURANCE:	
Farm Income Insurance, Government Share	$11,000.0
Farm Income Insurance, Producer Premiums	11,000.0
MISCELLANEOUS SALES — All Departments	7.3
Total Sales and Service Fees	22,007.3
FEES AND LICENCES	
AGRICULTURAL LICENCES:	
Horned Cattle Purchases	25.6
Brand Certificates	81.5
Brand Inspection Certificates	318.0
Miscellaneous Brand Revenues	.7
Stock Dealers Licences	11.8
Slaughterhouse Licences	2.7
Hide Dealers Licences	2.5
Dairy Industry Services Licences	8.2
Livestock AI Centre Licences	1.3
Fur Farm Licences	1.1
Game Farm Permits	8.0
Public Sale Yard Licences	3.9
Veterinary Drug Licences	5.5
Veterinary Laboratory Fees	129.6
Poultry Licences and Fees	3.2
	603.6
FISHERIES LICENCES:	
Aquaculture Licences	53.9
Buying Inspection Station/Processing Plant/Cold Storage	312.3
	366.2
MISCELLANEOUS FEES & LICENCES	
Livestock Protection Account — Dogs	13.7
Total Fees, Licences & Permits	983.5

INTEREST FROM INVESTMENT	
Gain/Loss on Conversion of Foreign Exchange	14.9
Interest on Overdue Accounts (F.A.A.-S.17)	31.6
ALDA — Interest on Loans	761.3
Total Interest from Investments	807.8
MISCELLANEOUS REVENUE	
Miscellaneous Receipts — Ministry and Other	14.2
ARDA Surcharge Recovery	21.1
ARDSA Projects — Refund of Expenditure	7.1
Recovery — Prior Year's Expenditure	1,385.2
Total Miscellaneous Revenue	1,427.6
CONTRIBUTIONS FROM THE FEDERAL GOVERNMENT	
ARDSA Recoveries	5,009.8
4-H Clubs — Canada Share	17.4
GRIP Administration Costs	90.6
Grape & Wine Producers' Assistance	93.8
Apple Producers' Income Assistance	6,196.0
Total Contributions from the Federal Government	11,407.6
EXTERNAL VOTE RECOVERIES	
MINISTRY OPERATIONS:	
Financial Programs — Crop Insurance Premiums	2,528.8
— Crop Insurance Administration	1,100.2
NTS: Producer Premiums	3,716.0
NTS: Administration Cost Recovery	93.7
Total External Vote Recoveries	7,438.7
MINISTRY TOTAL	44,072.5

Expenditures

	1990/91 ACTUAL
MINISTER'S OFFICE	$ 255,861
MINISTRY OPERATIONS	
ADMINISTRATION AND SUPPORT DIVISION	
Deputy Minister's Office	304,807
Public Affairs Branch	857,825
Salaries	1,068,341
Total Deputy Minister's Office	2,230,973
ADM — Administration and Support	48,644
Finance and Administration Branch	6,559,106
Personnel Branch	125,091
Policy and Legislation Services	196,867
Public Affairs Branch transferred to Deputy Minister	0
Salaries	1,914,315
Total ADM — Administration and Support	8,844,023
Total Administration and Support Division	11,074,996
DEVELOPMENT & EXTENSION	
ADM — Development and Extension	308,722
Food Industry Development Services	457,076
Marketing Boards and Legislation	0
South Coastal Region	871,336
North Central Region	170,705
Southern Interior Region	251,365
Farm Management Branch	83,277
Soils and Engineering Branch	384,550
Extension Systems Branch	288,312
Exec. Dir. Specialized Services	29,442
Animal Health Branch	335,804
Rural Organization Branch	16,806
Crop Protection Branch	665,489
Game Farming	29,745
General Grants	418,886
DATE Program	107,778
Salaries	10,647,179
Total Development and Extension	15,066,472

FINANCIAL PROGRAMS	
ADM — Financial Programs	93,396
Exec. Director Agricultural Finance	62,571
Financial Development Programs	
Financial Devel. Programs Admin.	203,283
Agriculture Loan Guarantees	80,554
Loan Administration — Finance	150,000
Estate Wine Quality Support Program	586,406
Miscellaneous Grants	17,620
Grains and Oilseeds Program	2,194,470
Farm Income Insurance	15,370,094
Crop Insurance	2,035,667
Tripartite	4,307,289
Salaries and Benefits	2,919,242
Total Financial Programs	28,020,592
GRAPE AND WINE ADJUSTMENT INITIATIVE	177,967
AQUACULTURE & COMMERCIAL FISHERIES	1,478,308
Salaries	1,820,577
Total Aquaculture & Commercial Fisheries	3,298,885
TOTAL MINISTRY OPERATIONS	57,638,912
AGRICULTURAL LAND COMMISSION	1,287,765
AGRI-FOOD REGIONAL DEVELOPMENT SUBSIDIARY AGREEMENT (ARDSA)	10,915,746
Total voted Expenditure	70,098,284
SPECIAL ACCOUNTS	
Farm Income Assurance Act	22,000,000
Less Transfer From Vote	(11,000,000)
Livestock Protection Act	19,832
Total Special Accounts	11,019,832
TOTAL MINISTRY EXPENDITURE	81,118,116

Statistical Tables

Area of Farms—British Columbia Canada

A. Total Area of Farms ('000 ha)

Year	British Columbia	Canada	B.C. as Percent of Canada
1976	2,449.5	68,428.5	3.6
1981	2,178.6	65,890.4	3.3
1986	2,411.1	63,739.8	3.8

B. Total Area of Improved Farmland ('000 ha)

Year	British Columbia	Canada	B.C. as Percent of Canada
1976	773.5	44,227.6	1.7
1981	946.3	46,122.6	2.0
1986	900.3	46,011.0	2.0

Note: Total area of a census farm is made up of the areas of crop land, summerfallow, improved pasture, other improved land, unimproved land and woodland on farms.

SOURCE: Statistics Canada, 1986, 1981 and 1986 Census of Agriculture.

Agri-Food Sector Contribution to B.C. Goods Production – Gross Domestic Product[1]

MILLIONS OF (1981) CONSTANT $

	1981	1982	1983	1984	1985	1986	1987	1988	1989
Agri-Food[2]	1,362	1,406	1,400	1,376	1,512	1,418	1,441	1,440	1,425
All Goods	13,673	11,975	13,028	12,778	14,037	13,519	15,083	15,471	15,825
Percent	9.96	11.74	10.75	10.77	10.77	10.49	9.55	9.31	9.00

(1) This is Gross Domestic Product which measures the total earnings from production within B.C. at market prices less indirect taxes plus subsidies.

(2) Agri-Food includes Agriculture, Fish, Food, & Beverages.

SOURCE: Central Statistics Bureau, B.C. Ministry of Finance & Corporate Relations

Farm Cash Receipts—B.C. ($'000)

	1985	1986	1987	1988	1989	1990
Wheat	15,658	9,841	9,393	11,320	14,367	12,623
Wheat, CWB payment	3,063	1,348	0	979	1,877	1,701
Oats	1,175	884	1,126	3,337	4,385	1,761
Oats, CWB payment	92	17	0	212	246	81
Barley	8,519	7,331	6,697	7,282	7,066	5,058
Barley, CWB payment	2,120	349	45	46	282	867
Deferments	-2,910	-3,615	-2,923	-5,198	-3,996	-3,130
Liquidations	5,562	2,910	3,615	2,923	5,198	3,996
Rye	187	72	131	420	137	113
Canola	10,838	5,291	7,411	9,911	8,140	6,442
Potatoes	22,546	23,920	24,386	20,978	20,392	17,162
Vegetables	66,323	76,500	81,326	80,904	95,132	91,952
Apples	28,321	35,276	31,721	32,377	36,243	37,134
Other Tree Fruits	18,205	12,920	15,234	13,817	13,180	12,104
Strawberries	7,077	7,319	12,055	10,369	5,436	8,123
Other Berries & Grapes	53,988	58,143	65,700	70,254	55,181	41,970
Floriculture & Nursery	60,295	71,214	72,796	96,119	102,666	125,247
Forage & Grass Seed	3,476	6,516	6,193	15,571	2,688	3,688
Hay & Clover	1,682	660	1,056	5,336	7,941	6,260
Forest Products	13,461	14,854	15,000	15,212	15,843	15,752
Miscellaneous Crops	2,558	2,655	2,808	3,136	3,138	3,112
Total Crops	322,236	334,405	353,770	395,305	395,542	392,016
Cattle	139,371	134,311	143,089	135,991	135,403	155,090
Calves	33,418	47,710	58,813	43,106	52,182	52,752
Hogs	47,606	54,381	49,540	44,452	46,013	55,604
Sheep	181	101	145	99	144	153
Lambs	1,769	1,950	2,433	2,603	2,529	2,434
Dairy Products	228,153	231,737	231,263	237,361	242,882	250,394
Hens & Chickens	75,019	79,952	90,490	92,923	107,896	121,817
Turkeys	16,640	19,093	19,290	21,095	22,190	24,120
Eggs	61,651	59,619	58,998	62,085	66,149	64,848
Wool	121	102	113	138	116	37
Honey	5,575	4,602	4,086	3,505	4,392	4,275
Furs	7,154	3,505	11,396	8,598	6,001	4,778
Misc. livestock	12,333	12,742	13,394	13,039	13,719	14,727
Total livestock	628,991	649,805	683,050	664,995	699,616	751,029
Crop Insurance Paym't	14,310	15,455	10,084	8,143	12,424	9,683
WGSA payments	3,374	5,360	8,087	3,822	1,130	0
ASA -Price Stabiliz	4,275	1,243	4,233	930	4,034	46
ASA -Tripartite Plans	0	0	0	2,976	16,283	8,848
Prov. Stab. Programs	44,384	44,054	14,113	43,670	24,799	15,098
Dairy Subsidy	9,894	10,227	10,423	10,539	10,726	10,273
Other Payments	3,986	8,324	5,552	12,637	6,518	19,711
Total Payments	80,223	84,663	52,492	82,717	75,914	63,659
TOTAL RECEIPTS	1,031,450	1,068,873	1,089,312	1,143,017	1,171,072	1,206,704

SOURCE: Statistics Canada, Agriculture Economic Statistics 21-603E

Farm Operating Expenses and Depreciation Charges—B.C. ($'000)

	1985	1986	1987	1988	1989	1990
Property taxes	10,184	11,025	11,007	12,448	13,450	14,463
Cash rent	19,095	19,952	20,586	20,609	22,550	22,795
Share rent	3,207	3,188	2,696	2,276	1,876	1,900
Cash wages	167,064	178,250	187,800	197,273	209,692	204,249
Room & board	1,854	2,053	2,172	2,322	2,343	2,480
Interest	120,830	119,209	109,010	111,109	124,690	129,441
Building repairs	14,813	16,504	18,387	19,574	20,305	18,101
Fence repairs	3,939	4,006	3,991	4,191	4,077	3,265
Electricity	17,861	18,156	19,582	20,660	20,818	20,000
Telephone	5,459	5,550	5,649	5,973	5,967	5,830
Heating fuel	13,039	10,386	10,448	10,431	11,814	12,405
Fuel	51,628	41,355	40,744	39,748	40,160	40,731
Machinery repairs	51,256	51,793	54,248	52,604	56,563	59,072
Fertilizer	34,700	33,400	33,279	32,226	35,016	34,548
Lime	1,829	2,007	2,034	1,832	2,013	2,354
Pesticides	14,606	13,690	12,766	12,000	12,165	14,236
Commercial seed	15,477	17,264	18,762	19,029	21,000	20,012
Irrigation	2,129	2,219	2,501	2,501	2,418	2,418
Twine, wire & containers	1,195	10,339	9,789	10,174	11,000	11,298
Crop & hail insurance	4,178	4,584	5,189	5,139	4,787	4,916
Commercial feed	190,423	185,000	159,317	180,623	213,044	200,762
Livestock purchases	7,043	8,886	12,491	13,188	13,147	10,137
A.I. fees & veterinary	13,374	14,030	14,173	15,181	16,741	16,533
Business insurance	3,454	3,873	3,752	3,978	4,077	4,240
Custom work	6,164	6,176	6,435	6,371	6,679	7,347
Stabilization premiums	23,833	22,795	12,041	27,136	14,079	11,891
Other expenses	32,345	32,224	31,154	33,144	35,619	35,042
Gross operating expenses	840,979	837,824	810,003	861,740	926,090	911,096
Interest rebates	5,215	6,741	5,417	636	0	0
Fuel rebates	748	1,287	856	1,010	721	655
Feed rebates	0	0	419	1,373	1,488	161
Total net operating exp.	835,016	829,796	803,311	858,721	923,881	910,280
Depreciation on buildings	30,001	27,450	24,321	23,956	24,794	26,232
Depreciation on machinery	69,810	70,579	68,159	65,461	66,064	64,797
Total depreciation	99,811	98,029	92,480	89,417	90,858	91,029
Gross expenses	940,790	935,853	902,483	951,157	1,016,948	1,002,125
Total rebates	5,963	8,028	6,692	3,019	2,209	816
Total net expenses	934,827	927,825	895,791	948,138	1,014,739	1,001,309

SOURCE: Statistics Canada, Agriculture Economic Statistics, 21-603E

Net Farm Income—B.C. ($'000)

	1985	1986	1987	1988	1989	1990
Cash Receipts	1,031,450	1,068,873	1,089,312	1,143,017	1,171,072	1,206,704
Operating Expenses after Rebates	835,016	829,796	803,311	858,721	923,881	910,280
Net Cash Income	196,434	239,077	286,001	284,296	247,191	296,424
Income in Kind	10,369	8,523	8,651	8,591	8,291	8,578
Depreciation	99,811	98,029	92,480	89,417	90,858	91,029
Realized Net Income	106,992	149,571	202,172	203,470	164,624	213,973
Inventory Change	-34,413	-1,150	9,579	22,913	-411	2,168
Total Net Income	72,579	148,421	211,751	226,383	164,213	216,141

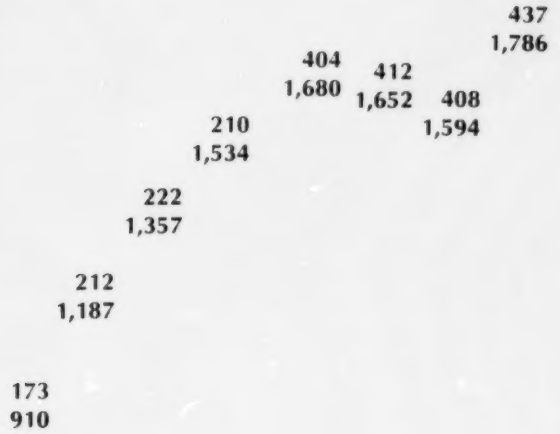
SOURCE: Statistics Canada, Agriculture Economic Statistics, 21-603E

B.C. Aquaculture Production

	VALUE ($,000)	WEIGHT (Tonnes)	
1987[1]	$12,872	1,931T	MARINE SALMON & TROUT
1988[1]	$39,084	6,590T	
1989[1]	$59,739	11,883T	
990 (est.)	$71,400	14,142T	
1987[1]	$2,548	3,482T	OYSTER
1988[1]	$2,725	3,702T	
1989[1]	$2,938	3,721T	
990 (est.)	$3,000	4,000T	
1987[1]	$442	90T	FRESHWATER TROUT
1988[1]	$505	113T	
1989[1]	$558	102T	
990 (est.)	$550	115T	
1987[1]	$133	63T	OTHER SPECIES*
1988[1]	$93	43T	
1989[1]	$113	35T	
)90 (est.)	$138	55T	

* Other species include: manila clams, blue mussels, scallops, abalone, carp and marine plants.

[1] revised



Licensed Aquaculture Sites and Utilized Hectares

*Includes a small number of carp facilities

SITES
HECTARES

1987	1988	1989	1990
40	46	47	62[2]

HATCHERIES — Finfish

Marine Finfish				Marine Shellfish				Freshwater Trout*				Marine Plants			
								135	149	173	88[1]	4	5	6	6
												45	48	88	88
1987	1988	1989	1990	1987	1988	1989	1990	1987	1988	1989	1990	1987	1988	1989	1990

* Includes a small number of Common Carp facilities.

[1] A change in licensing structure has reduced the number of freshwater operations licensed as commercial.

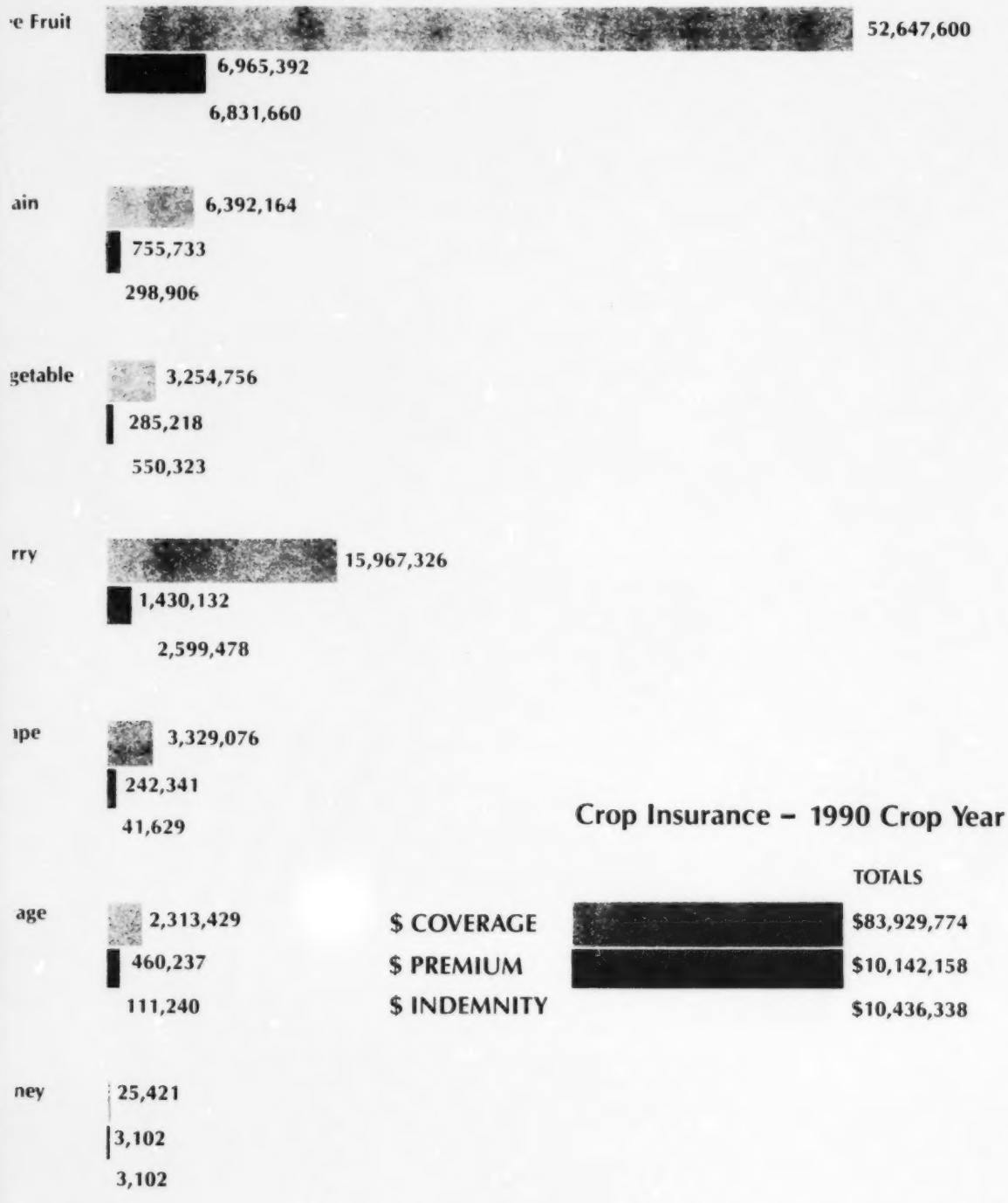
[2] Increase due to a separation of freshwater trout hatcheries from freshwater trout growout operations.

B.C. Commercial Fish Landings

	1989			1990[7]		
	Landed Quantity Tonnes	Landed Value $mil	Wholesale Value $mil	Landed Quantity Tonnes	Landed Value $mil	Wholesale Value $mil
Salmon[1]	84,894	256	587	95,362	261	574
Farmed Salmon	11,883	60	72	14,142	71	86
Subtotal	96,777	316	659	109,504	332	660
Herring[2]	41,008	76	158	40,352	75	153
Halibut[3]	4,659	19	31	3,571	20	33
Groundfish[4]	129,016	55	96	130,062	60	105
Shellfish[5]	21,237	45	72	19,584	42	68
Other	1,044	2	2	462	1	2
TOTAL	293,741	513	1,018	303,535	530	1,021

Footnotes:
1. Includes salmon roe but does not include salmon aquaculture production. Wholesale value includes production derived from U.S. salmon.
2. Includes herring spawn on kelp.
3. Includes halibut landings at U.S. ports.
4. Includes hake delivered to foreign vessels in cooperative fishing arrangements and "other fish" not elsewhere included.
5. Includes shellfish aquaculture production.
6. Includes sturgeon, tuna, eulachons, smelt, anchovies, floating kelp and other fish.
7. Quantity data for 1990 is preliminary; values are based on estimated prices.

Sources: B.C. Annual Fisheries Production Statistics — Ministry of Agriculture, Fisheries and Food
Annual Summary of B.C. Catch Statistics — Canada, Department of Fisheries and Oceans.


e Fruit
52,647,600
6,965,392
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6,392,164
755,733
298,906
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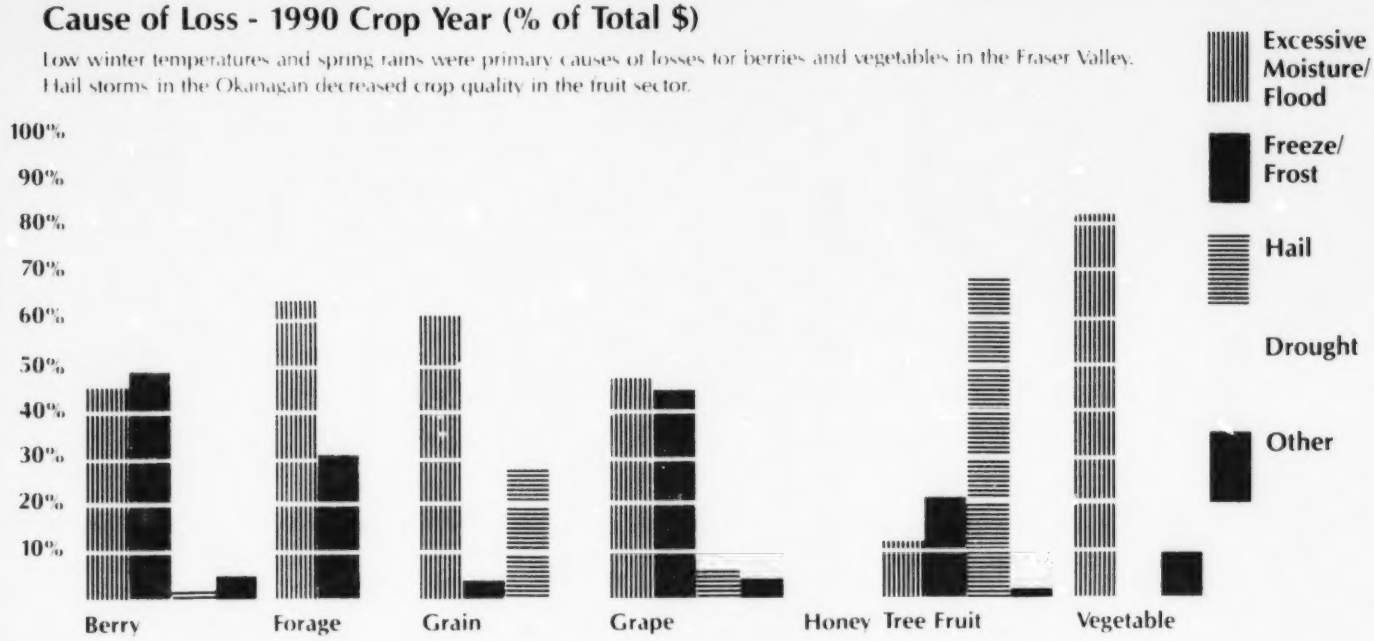
3,254,756
285,218
550,323
rry
15,967,326
1,430,132
2,599,478
ıpe
3,329,076
242,341
41,629
age
2,313,429
460,237
111,240
ney
25,421
3,102
3,102
Crop Insurance – 1990 Crop Year
TOTALS
$ COVERAGE
$ PREMIUM
$ INDEMNITY
$83,929,774
$10,142,158
$10,436,338

Cause of Loss - 1990 Crop Year (% of Total $)

Low winter temperatures and spring rains were primary causes of losses for berries and vegetables in the Fraser Valley. Hail storms in the Okanagan decreased crop quality in the fruit sector.



Farm Income Insurance, March 31, 1991

SOURCE OF FUNDS Government Premiums ($)	Fiscal 90-91	Fiscal 89-90
Blueberry	341,268	(9,309)
Beef	4,382,730	4,019,353
Greenhouse	0	1,988
Potatoes	(127,740)	614,419
Sheep	189,947	21,399
Strawberry	5,315	242,571
Swine	108,360	101,260
Tree Fruit	6,025,120	12,419,855
Vegetable	75,000	(362,492)
TOTAL PREMIUMS	$11,000,000	$17,049,044
USE OF FUNDS Net Indemnities to Farmers ($)		
Blueberry	322,902	109,310
Beef	3,972,335	5,851,721
Greenhouse	0	113,101
Potatoes	(105,145)	(612,483)
Sheep	54,468	260,270
Strawberry	133,760	43,502
Swine	(492,692)	(230,489)
Tree Fruit	7,039,372	12,138,267
Vegetable	75,000	(87,495)
TOTAL NET INDEMNITIES	$11,000,000	$17,585,704
Surplus (Deficit) for year	0	(536,660)
Surplus (Deficit) beginning of year	10,409,095	10,945,755
Total Surpluses (Deficits) as at March 31, 1991	10,409,095	10,409,095

Agricultural Land Development Assistance (ALDA) Program
Summary of Applications by Project Type 1990/91

Project Type	No. Projects	$
Best Waste Management	13	$ 626,330
Best Soil Management	3	149,300
Clearing	41	1,125,632
Drainage	8	214,995
Fencing:		
Crop Protection	1	20,000
Game Farming	6	99,725
Irrigation	52	1,427,499
Orchard Intensification	18	319,863
Vineyard Intensification	1	35,260
Water Systems	15	246,395
Wind Machines	3	51,800
Total Projects	161*	$4,316,799

* Applications may be comprised of more than one type of project, therefore, the number of actual projects will be greater than the number of applications received.

Agricultural Land Development Assistance Program (A.L.D.A.)

(FISCAL YEAR)	1989/90		1990/91	
	No.	Amount	No.	Amount
Total Applications Received	98	$ 2,407,066	146	$ 4,316,799
Total Contracts Issued	101	$ 1,321,758	176	$ 3,882,960
Total Value of Loans Advanced		$ 1,247,200		$ 2,379,841
Total Contracts Outstanding		549,050		1,815,126
		$ 1,796,250		$ 4,194,967
Total Loans Payments Received		$ 3,279,595		$ 3,017,543
Total Accounts as at March 31	1803	$14,048,906	1685	$14,047,885
Total Delinquent Loans	165	$ 260,792	134	$ 196,851
Transferred to Taxes	23	$ 119,200	13	$ 178,974

Farm Product Industry Act Guarantees and Loans Outstanding

Financial Administration Act — Section 56 — Guarantees	
East Chilliwack Agricultural Co-op	$2,000,000
Fraser Valley Mushroom Growers' Co-op	1,000,000
Feeder Assoc. Loan Guarantee Program	
Okanagan Feeder Cooperative Assoc.	2,000,000
Cariboo-Chilcotin Cooperative Feeders	1,000,000
TOTAL	$6,000,000

Agricultural Credit Act Guaranteed Loan Program Active Guarantees, March 31, 1991, By Region

Region	No	($000)
South Coastal	32	2,785
Southern Interior	3	438
North Central	1	65
TOTAL	36	3,288

Agricultural Credit Act Guaranteed Loan Program Active Guarantees, March 31, 1991, By Enterprise

Enterprise	No	($000)
Dairy	6	628
Beef	1	65
Grain & Forage	0	0
Poultry	1	94
Vegetables	5	569
Orchards/Vineyards	3	373
Swine	2	137
Mushroom	10	652
Aquaculture	1	13
Horticulture	7	757
TOTAL	36	3,288

ARDSA Approved Projects to March 31, 1991

Commodity	Number Projects	Project Cost	ARDSA Share
Livestock			
- Beef	29	$ 8,245,971	$ 2,709,291
- Dairy	7	1,131,637	325,747
- Swine	10	638,888	509,388
- Other	5	86,284	65,971
Poultry	15	471,069	277,863
Honey/Bees	10	803,696	387,735
Tree Fruit	56	17,851,850	5,964,288
Soft Fruits	27	10,924,996	2,284,718
Nuts	2	451,000	116,665
Greenhouse Vegetables	9	3,044,004	717,526
Field Vegetables	35	6,178,320	1,778,071
Nursery	7	259,855	216,147
Forages	38	2,130,053	1,253,029
Cereals, Oilseeds	15	6,175,934	2,673,506
Mushrooms	7	221,336	97,485
Fur	2	70,715	20,513
Mixed	4	952,086	737,419
Irrigation/Drainage/General Projects	97	27,186,028	19,735,423
TOTAL ARDSA Program	375	86,823,722	39,870,785

Canada-British Columbia Grape and Wine Adjustment Assistance Initiative ($000)

Program Component	($M) Federal Funds	($M) Prov. Funds	($M) Total
Deficiency Payment	2.4	2.1	4.5
Vine Removal	10.5	9.3	19.8
Cash Cost Escalation	.6	.6	1.2
Marketing	.5	.5	1.0
Provincial Credit	.0	1.5	1.5
TOTAL	14.0	14.0	28.0

1989/90 Fiscal Expenditures Canada-British Columbia Grape and Wine Adjustment Assistance Program

Component	($) Expenditures
Vine Removal	$70,740
Deficiency Payment	0
Cash Cost Escalator	0
Market Development	$96,538
TOTAL	$167,278

ARDSA Summary 1985-1990

	Applications Received	Applications Ineligible	Rejected or Withdrawn	Projects Approved
Program 1: Productivity Enhancement	306	60	126	108
Program 2: Resource Development	233	33	85	96
Program 3: Commodity Development	190	48	87	51
1985-1989/90 Agreement Total	729	141	298	255

Related Agencies, Boards, and Commissions

Agricultural Land Commission
British Columbia Marketing Board
British Columbia Broiler Hatching Egg Commission
British Columbia Chicken Marketing Board
British Columbia Cranberry Marketing Board
British Columbia Egg Marketing Board
British Columbia Grape Marketing Board
British Columbia Hog Marketing Commission
British Columbia Milk Marketing Board
B.C. Mushroom Marketing Commission
British Columbia Oyster Board
British Columbia Sheep and Wool Commission
British Columbia Tree Fruit Marketing Board
British Columbia Turkey Marketing Board
British Columbia Vegetable Marketing Commission
British Columbia Wine Institute
Okanagan Valley Tree Fruit Authority

Legislation Administered by the Ministry

Ministry of Agriculture and Food Act
Agriculture and Rural Development (B.C.) Act
Agriculture Credit Act
Agricultural Land Commission Act
Agricultural Produce Grading Act
Agriculture Protection Act
Agrologists Act
Animal Disease Control Act
Bee Act
British Columbia Wine Act
Cattle Horn Act
Farm Distress Assistance Act
Farm Income Insurance Act
Farm Product Industry Act
Farmers and Womens Institutes Act
Farming and Fishing Industries Development Act
Fish Inspection Act*
Fisheries Act
Food Choice and Disclosure Act
Food Products Standards Act
Fur Farm Act
Game Farm Act
Grasshopper Control Act
Insurance for Crops Act
Livestock Act
Livestock Brand Act
Livestock Industry Act
Livestock Lien Act
Livestock Protection Act
Livestock Public Sale Act
Meat Inspection Act**
Milk Industry Act**
Natural Products Marketing (B.C.) Act
Okanagan Tree Fruit Authority Act
Pharmacists Act (sections 49-55)
Plant Protection Act
Prevention of Cruelty to Animals Act
Seed Grower Act
Seed Potato Act
Soil Conservation Act
Veterinarians Act
Veterinary Laboratory Act
Weed Control Act

*In practice some of the responsibility for these statutes is shared with the Ministry of Health. An Order In Council assignment under the Constitution Act for the Legislative Authority will be made.

**In practice the responsibility for this statute lies with the Ministry of Health. An Order in Council Assignment under the Constitution Act for the legislative authority will be made.

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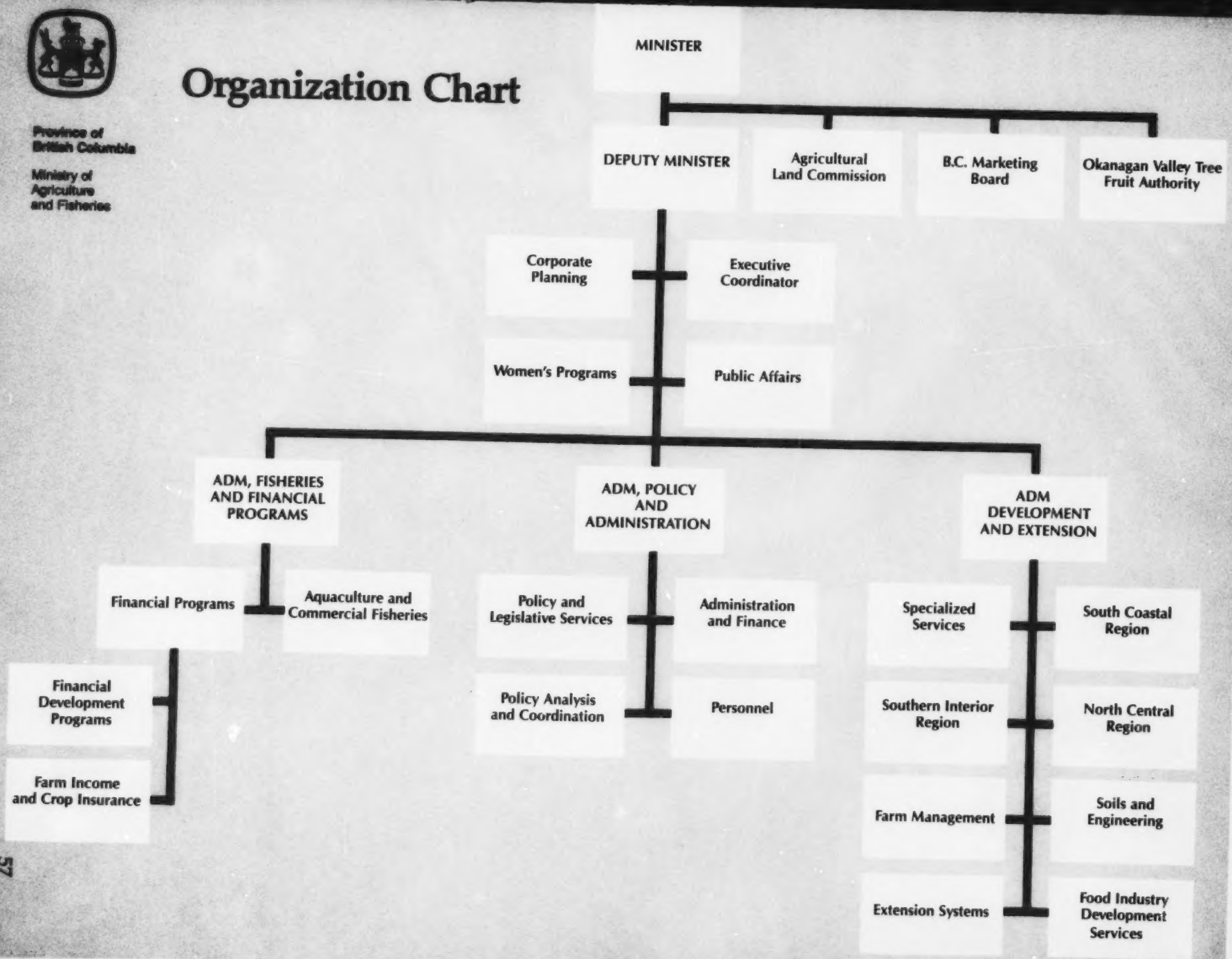
Organization Chart

Province of British Columbia

Ministry of Agriculture and Fisheries



Offices

Minister's Office	Legislative Buildings, Victoria, V8V 1X4 TELEPHONE 387-1023 FAX 387-1522
Abbotsford	Main Office, 205 33780 Laurel Street V2S 1X4 TELEPHONE 852-5211 FAX 852-5428
	Soils and Engineering, 33832 South Fraser Way V2S 2C5 TELEPHONE 852-5363 FAX 853-4383
	Agriculture and Food Centre, 32916 Marshall Road V2S 1K2 TELEPHONE 852-5350 FAX 852-5394
	Animal Health, 1874 Gladwin Road, Box 100 V2S 4N8 TELEPHONE 854-4400 FAX 853-4357
Chilliwack	45850 #F Yale Road V2P 2N9 TELEPHONE 795-8395 FAX 795-8454
Cloverdale	17720 57th Avenue, Surrey V3S 4P9 TELEPHONE 576-2911 FAX 576-3717
Courtenay	2500 Cliffe Avenue V9N 5M6 TELEPHONE 334-1239/334-1401 FAX 334-1209
Cranbrook	42 8th Avenue South V1C 2K3 TELEPHONE 426-1535 FAX 426-1546
Creston	456 Northwest Boulevard Box 1980 V0B 1G0 TELEPHONE 428-3255 FAX 428-3271
Dawson Creek	1201 103rd Avenue V1G 4J2 TELEPHONE 784-2225 FAX 784-2299
Duncan	5785 Duncan Street V9L 5G2 TELEPHONE 746-1210 FAX 746-1292
Fort St. John	350, 10003-110 Avenue V1J 6M7 TELEPHONE 787-3240 FAX 787-3299
Kamloops	162 Oriole Road V2C 4N7 TELEPHONE 828-4552 FAX 828-4631 Brands 828-4677 FAX 828-4979

Kelowna	1873 Spall Road V1Y 4R2 TELEPHONE 861-7211 FAX 861-7490
Oliver	Court House, Box 940 V0H 1T0 TELEPHONE 498-6235 FAX 498-6333 (Govt. Agent)
Penticton	3547 Skaha Lake Road V2A 7K2 TELEPHONE 492-1320 FAX 492-1309
Prince George	Experimental Farm Site R.R. #8 RMD 7 V2N 4M6 TELEPHONE 565-6466 FAX 565-6675
Quesnel	101 350 Barlow Avenue V2J 2C1 TELEPHONE 992-4241 FAX 992-4314
Salmon Arm	681 Marine Park Drive, N.E., Bag 100 V1E 4S4 TELEPHONE 832-1630 FAX 832-1707
Sidney	Building 20 Saanichton Research Station 8801 East Saanich Rd. V8L 1H3 TELEPHONE 656-0941 FAX 656-8922
Smithers	1020 Murray Street Bag 5000 V0J 2N0 TELEPHONE 847-7246 FAX 847-7711
Vanderhoof	Church Avenue Box 987 V0J 3A0 TELEPHONE 567-6311 FAX 567-6350
Vernon	4607 23rd Street V1T 4K7 TELEPHONE 549-5580 FAX 549-5488
Victoria	808 Douglas Street V8W 2Z7 TELEPHONE 387-5121 FAX 387-5130
Williams Lake	640 Borland Street V2G 1R8 TELEPHONE 398-4500 FAX 398-4688